UNIVERSITY OF TORONTO

REPORT OF THE DEAN

OF THE

FACULTY OF MEDICINE

SESSION 1943-1944

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FACULTY OF MEDICINE

Toronto, June 30th, 1944

To the Graduates in Medicine of
the University of Toronto.

The Annual Report of the Dean of the Faculty is sent each year to all the graduates in Medicine in order that their interest in the School may be maintained and that they may have accurate information upon which to base comment and helpful criticism. With this Report go the best wishes of the Faculty.

W. E. GALLIE,
Dean.

REPORT OF THE DEAN OF THE FACULTY OF MEDICINE

With the completion of the fifth year of the war, the Faculty of Medicine is justly proud of its record in turning out adequately trained graduates for inclusion in the medical services. From June, 1940, to the present time, 726 have graduated and have been made available for national service. This contribution has played an important part in overcoming the serious shortages which existed two years ago.

The accelerated course adopted by the Association of Canadian Medical Colleges three years ago was carried out as agreed upon, and as a result a class of 150 graduated in July, 1943, and another in May, 1944. These students all served during the short vacation as externs in hospital so that their course was continuous. Upon graduation they had an eight months' internship and then were gazetted as officers in the Army, Navy, or Air Force. As it is now evident that the size of our army has reached its peak and also that the war is drawing to a close, it appears that acceleration of the course will not be needed much longer. It has been decided, therefore, that the present first and second years shall return to the pre-war programme and that acceleration shall end with the graduation of the other years. This decision was welcomed by all the Faculty for although the plan has overcome a serious shortage of medical officers and has enabled the School to carry on much better than in 1914, nevertheless the strain on the depleted staff has been very great and the results, as far as the average standard of our graduates is concerned, have shown some deterioration.

The selection of students to enter the freshman year at the present time is unsatisfactory. As a war-time measure it was agreed that the maximum number entering should be raised to 150. As a result there actually have been 150 enter each year and this is too many to allow of proper training in the clinical years. Further, the quality of the matriculants in the lower third of the class, as indicated by the examination records submitted by the Department of Education, is so low that there is no possibility of their getting through the difficult medical course creditably. It is certain, therefore, that with the return of normal times the Faculty will recommend that a limit of 100 be placed on admissions.

Some criticism of the University has arisen because students are being admitted to Medicine who are of military age. This criticism has no merit, however, as the National Selective Service Board has directed that it is in the national interest that the Schools should continue and that the supply of graduates should be kept up.

The financial difficulties of our students caused by acceleration of the course have been completely overcome by the establishment of the Dominion-Provincial Student Aid Scholarships and Bursaries. The funds for these scholarships have been appropriated by the Department of Education of the Province of Ontario and by the Department of Labour in Ottawa. They enable any needy student in the first year, of good health and character, who has obtained an average of 66 per cent in the senior matriculation examination to receive financial assistance up to $400. Similarly in the second, third, and fourth years student aid bursaries are available to such students. In the fifth and sixth years they are unnecessary as in these years the students are in the army and receive the pay and allowances of private soldiers. For those students who, for one reason or another, are not eligible for these scholarships there is always the Kellogg Loan Fund.

At the invitation of the Procurement and Assignment Board and of the Canadian Medical Association, consideration has been given to the problem of

refresher courses and post-graduate instruction for medical officers returning from the services. A survey conducted this year among the medical officers in Canada and overseas has indicated that a great number will seek such post-graduate training. During the period of demobilization and the years immediately afterwards, this is sure to present a difficult problem and one that will tax the capacity of the School to the limit. The problem is being faced, however, and during the coming year plans will have been completed which will enable us, when our staff returns, to meet the situation creditably. Our chief responsibility, of course, will be to that great body of our own young graduates, over 500 of them, who have gone overseas with only an eight months' internship and who will now be returning with the hope that they may be able to pick up the threads of their education where they were broken by enlistment. While many, particularly those who have married and have families, will no doubt go directly into practice, nevertheless the more generous financial arrangements that are being made for the demobilization of officers and men, whose education has been interrupted by the war, will enable much greater numbers to seek additional educational opportunities than in 1919. To meet the emergency, therefore, we must not only provide lectures, clinics, and laboratory courses but we must temporarily increase the number of internships, externships, and residencies. Admittedly, such a plan will reduce somewhat the value of the intern appointment to the individual student, but it will provide for our returning men the opportunity they so urgently need to have close contact again with practical medicine and surgery before facing the responsibilities of practice.

During this year the Department of Health of Ontario revised its public-health programme in regard to venereal disease and invited the Faculty of Medicine to offer suggestions that might be of assistance. A committee composed of members of the Faculty representing the four teaching hospitals considered this invitation carefully and ultimately drew up a memorandum which was approved by the President, the Faculty, and the Boards of each of the hospitals, in which it was agreed that each hospital would co-operate fully with the Department in conducting model clinics and in providing vigorous undergraduate and graduate teaching combined with clinical and experimental research.

At the request of the Directors General of the Medical Services, special courses have been conducted throughout the year. (1) A course in Neurology and Psychological Medicine was given to three officers every two months by the Departments of Medicine, Psychiatry, and Pathology. (2) A course in Ophthalmology of eight months' duration was given to five officers from the Army and Navy; in this effort the Department of Ophthalmology under Dr. Wright was assisted by the Departments of Physics, Anatomy, Physiology, Pathology, and Radiology. (3) The Departments of Medicine and Surgery have continued the plan of providing senior intern appointments of six months' duration to officers seconded from the Medical Services for special additional training; many of these officers have gone overseas to important appointments. (4) Several courses of one week's duration have been given by the Department of Surgery on the treatment of fractures by the Stader Splint. Officers from all the services attended. (5) The Department of Therapeutics gave several courses in Anaesthesia to a number of officers. (6) The Department of Radiology gave three courses of four months each, to radiologists and radiological technicians sent for the purpose by the Army and Air Force. A total of twenty-nine radiologists and eighty-five technicians received this training.

While the work of the Faculty Council has been enormously increased by the problems arising from acceleration, special credit must be given to the various committees and particularly to the Chairmen of these committees, for the loyal and self-sacrificing way in which they have taken up each of the problems and prepared reports and recommendations to the Faculty Council. The

heaviest responsibility has rested on the shoulders of the Committee of Curriculum and Examinations, under the Chairmanship of Professor Duncan Graham, on the Committee of Applications and Memorials, under Professor Andrew Hunter, and on the Committee on Admissions. Among the other committees that keep the Faculty working properly, I wish to refer particularly to the Library Committee. This Committee has been the special care, for over twenty years, of Professor V. E. Henderson, during which time, through his devotion to its interest, the Medical Library has grown from microscopic proportions to something which has completely outgrown its housing arrangements. One of the first requirements of the University when normal times return will be some programme of expansion of the housing arrangements for the Library.

Research

Although curtailed by the absence of so many of the younger members of the staff and of almost all fellows, a surprising amount of research has been carried on and there is no doubt that with the return of the young workers it will revive again. Most of the studies have been on behalf of the Department of National Defence and are referred to in the reports of the various departments.

One of the most important contributions has been that of Dr. Phillip Greey in the Department of Pathology, in collaboration with the Biochemical group in the Banting and Best Department of Medical Research on the production of penicillin. During the year studies in the pilot plant in the Department of Pathology and Bacteriology have gone on continuously and have been of great assistance in starting commercial production at the Spadina Branch of the Connaught Laboratories (Old Knox College). This has gone on most satisfactorily and large quantities of the drug are being supplied to the armed forces.

The extent to which laboratory research has been employed in solving problems presented by the Army, Navy, and Air Force is indicated in the reports of the Departments of Physiology and Medical Research. The work has been done chiefly by officers seconded for the purpose from the services, working under the supervision of Professor Best.

Convocation this year was held on May 5. Again Convocation Hall was packed with students and their friends, indicating the great popularity of the present plan of holding the convocation for medical graduates separate from the general University Convocation. The address was delivered most acceptably by Air Commodore J. W. Tice, R.C.A.F., Director of Medical Services.

The changes in the staff made during this year are as follows:

Dr. W. R. Campbell promoted from Associate in Medicine to Assistant Professor.

Dr. J. K. W. Ferguson promoted from Assistant Professor to Associate Professor of Pharmacology.

Dr. G. E. Hall, Professor of Medical Research, has resigned in order to accept appointment as Dean and Professor of Medical Research in the Medical School of the University of Western Ontario.

Dr. Angus McLachlin, formerly Fellow in Surgery, has been appointed Professor of Surgery in the University of Western Ontario.

The Charles Mickle Fellowship for 1943 was awarded to Dr. E. A. Graham, Professor of Surgery in Washington University, for his outstanding contributions to our knowledge of disease of the gallbladder and of carcinoma of the lung.

The award of this Fellowship for 1944 has been made to Professor Alexander Fleming of St. Mary's Hospital School, London, and to Professor H. W. Florey of Oxford University for their epoch-making discovery and development of penicillin.

It is hoped that these three gentlemen will ultimately be able to deliver lectures here.

Two new scholarships have been established. The Dr. Roy Simpson Scholarship has been founded by grateful parents of Dr. Simpson's patients, to be

awarded for outstanding ability and aptitude in Paediatrics. The first award was made to Dr. C. T. Collins-Williams who will ultimately pursue the study of disease in children. The other is the Posluns Brothers Scholarship of $100 to the best student in Anatomy, Physiology, and Biochemistry.

In addition to these scholarships the Faculty gratefully accepted a gift from Mr. Samuel Shendroff, to be known as the Rose Shendroff Memorial Loan Fund, which will be used to give financial assistance to students in the last two years of the medical course.

Honours conferred on members of the staff this year are as follows:

Professor DUNCAN GRAHAM was awarded the C.B.E. for long and outstanding service in the field of medical research.

Professor C. H. BEST, the C.B.E. for outstanding contributions in medical research, particularly in relation to the armed forces.

Wing Commander W. R. FRANKS, the M.B.E. for his contributions to Aviation Medicine.

Major A. L. CHUTE, the C.B.E. for distinguished research work with the army of North Africa.

Professor V. E. HENDERSON was awarded the Flavelle Medal by the Royal Society of Canada for outstanding contributions to medical science and particularly in the discovery of new anaesthetics.

Professor GORDON E. RICHARDS was made an Honorary Fellow of the Royal Society of Medicine in England in recognition of his eminence in Radiology.

An interesting event of the year was the conferring of the degree of LL.D., *honoris causa*, on Dr. A. W. Ellis, Regius Professor of Medicine at Oxford University, England, at a special convocation held on April 20, 1944. Dr. Ellis is a graduate of this School of 1908 who has brought great honour to his alma mater through his contributions to medical science and the honourable position he has achieved in England.

It is my sad duty to record an unusually long list of members of the Faculty who have died this year: Dr. Alexander Primrose, known to all older graduates as their beloved Professor of Anatomy and to the younger ones as a Professor of Surgery and as Dean of the Faculty, Dr. James MacCallum, formerly Professor of Ophthalmology, Dr. D. E. Robertson, Assistant Professor of Surgery and Surgeon-in-Chief, Hospital for Sick Children, Dr. W. H. Martin, Professor of Chemistry in the Faculty of Arts, and special instructor in Chemistry to the students of Medicine, Dr. Angus MacKay, a Demonstrator in Medicine and a member of the staff at the Toronto Western Hospital. Surgeon Lieutenant W. L. M. King, a Fellow in Surgery and formerly Resident Surgeon at St. Michael's Hospital was lost at sea with H.M.C.S. *St. Croix*. He was the third young member of the staff to give his life for his country during this war.

W. E. GALLIE

MEDALS, PRIZES, FELLOWSHIPS, SCHOLARSHIPS, AND BURSARIES

Awarded at Convocation, May, 1944

The Cody Gold Medal	G. L. Snider
The Cody Silver Medal	W. T. W. Clarke
The Cody Silver Medal	W. J. Horsey
The Chappell Prize in Clinical Surgery	W. J. Horsey
The William John Hendry Memorial Scholarship in Obstetrics and Gynaecology	C. Alter
The Ontario Medical Association Prize in Hygiene and Preventive Medicine	D. Fraser
The David Dunlap Memorial Scholarships:	
Sixth year	W. T. W. Clarke
Fifth year	H. Kalant
The Dr. Roy Simpson Scholarship in Paediatrics	C. T. Collins-Williams

Awarded at Other Periods

The Baptie Scholarship	W. B. Weisbrod
The B'nai B'rith Scholarship	H. Kalant
The Lister Prize in Surgery	F. G. Kergin, B.A. Ox., M.D. Tor., F.R.C.S. Eng.
The Faulkner Medal in Psychiatry	R. I. Wolfe, M.D.

REGISTRATION OF STUDENTS IN THE FACULTY OF MEDICINE

SESSION 1944-1945

First year	149
Second year	124
Third year	122
Fifth year	135
Sixth year	119
B.Sc.(Med.)	3
Diploma in Public Health	27
Diploma in Psychiatry	3
Diploma in Industrial Hygiene	1
Graduate Students	3
	686

ANATOMY

Under the direction of Professor J. C. B. Grant

Despite the war, lectures have been given and classes and examinations have been conducted as in ordinary times. In the absence of Surgeon Lieutenant C. G. Smith, Dr. Cates has conducted the class of Neurology for third-year medical students. Dr. Watt has conducted two special courses for medical officers in the armed forces: the first of these was a series of lectures and demonstrations on prepared material to a class of Medical Radiologists; the second was a ten-week course given to officers who are being trained as specialists in Ophthalmology.

The research work conducted by Dr. Ham and under his supervision has been increasing in volume and it has been necessary to get a third technician to assist the two very competent technicians, Mr. Harry Whittaker and Mr. George Ross, now on the staff.

This year Professor W. H. Piersol retires after forty-two years of teaching on the staff of the University, and the best wishes of everyone accompany him. Dr. Piersol's activities have been divided between the Departments of Zoology and Anatomy and more than one generation of grateful graduates will recall his calm, clear, and orderly presentation of the subject of Embryology.

Dr. H. C. Elliott, who for many years has been associated with the Department as demonstrator and as investigator, has been appointed Instructor in Anatomy in the University of South Carolina, preliminary to being appointed Assistant Professor.

RESEARCHES

Under the direction of Dr. Arthur Ham the following investigations have been made:

(1) An extensive experimental investigation of burns. There were three aspects to this: (*a*) a study of the histopathology of burns of different degrees with particular reference to the sites of fluid loss in each type of burn, (*b*) the local effects of the tannic acid treatment particularly with regard to the depth of penetration of the tannic acid and the effect of this on healing, and (*c*) the toxicity of tannic acid. This work was supported by a grant from the National Research Council and results of the investigation have been reported to them.

(2) The toxicity of certain industrial substances in relation to different diets. This work was done in collaboration with Dr. Lucas of the Department of Pharmacology, and Dr. K. Baldwin participated in it. The results of the investigation were reported to the National Research Council who were supporting it.

(3) The histopathology of alloxan diabetes. This study was made in collaboration with Dr. Ridout and Dr. Wrenshall who made the studies on other

aspects of alloxan diabetes. The results of the whole study are being published together.

(4) Dr. M. I. McKay is investigating the factors affecting transplantation of the adrenal glands in rats. This work is being assisted by a grant from the Banting Research Foundation.

Publications

Grant, J. C. B. *An atlas of anatomy.* Baltimore: Williams and Wilkins. 1943. Pp. 390.

——————— "The Respiratory System" (in Cunningham's *Textbook of Anatomy*, Oxford University Press, 1943, pp. 657-96).

Ham, A. W. and Salter, M. D. *Doctor in the making.* Montreal: Lippincott. 1943. Pp. 179.

ART SERVICE

Under the direction of Miss Maria T. Wishart

It has been Miss Wishart's constant objective to bring about closer co-operation between editor, artist, and publisher of medical illustrations, but one which has met with little success. Therefore it is a matter of satisfaction to report the accomplishment of a concrete step towards this objective. While in Montreal last March, Miss Wishart took up this point with Dr. H. E. MacDermot and Mrs. L. H. Lang of the *Canadian Medical Association Journal.* This was followed by a return visit from Mrs. Lang last May, which provided an excellent opportunity to discuss and demonstrate mutual problems. Mrs. Lang wrote as follows:

> Outstanding among my busy two days in Toronto is my visit to your studio and I want to thank you and Miss Drummond for your painstaking instructions and for your great kindness.
>
> Mr. Murray was most agreeable to having you deal with the engravers direct so when the time comes I shall let you know with whom to deal. I feel so hopeful about the future of our illustrations—particularly the ones coming from you—that it seems as if a load had been taken off my shoulders.

If in turn the engravers and printers enter into the spirit of this co-operation, the results should be gratifying to the artists, editors, and medical profession, alike.

Miss M. Drummond continues to act as pupil assistant artist to the Department. Her studies are handicapped by the pressure of routine work which does not permit of time to devote to certain medical subjects which should be undertaken concurrently with the training she is receiving.

At Miss Wishart's prompting, Miss E. Blackstock, who has assisted in the Department as part-time artist over a period of nine years, commenced the study of Anatomy. The value of her assistance will be increased materially with this primary step in the study of medical art.

A series of some thirty-seven illustrations was completed by Miss Drummond for a paper entitled "Memorandum on Amputations" by Dr. A. B. LeMesurier and published by the National Research Council.

It is a pleasure to report that Miss E. Hopper (Mrs. John Ross), assistant artist in the Medical Art Service, 1939-41, is again working in the Department on a part-time basis. Her work, as always, is very stimulating.

Further illustrations in colour have been prepared by Miss Hopper for the next edition of Dr. Wm. Boyd's text-book on Pathology.

With the approval of the President, Miss Wishart spent some weeks in Ottawa last autumn making a series of master drawings for the film on "Shock" which Captain R. A. Cleghorn was at that time editing. The opportunity to learn first hand the approach to making animations was invaluable. Another lesson learned the hard way was that drawings prepared by a trained scientific

artist should not be subject, without control, to interpretation by a lay artist. The results achieved by the National Film Board were disillusioning.

Work has been continued on the illustrations for Dr. W. A. Scott's and Dr. H. B. Van Wyck's forthcoming textbook. Full time should be devoted to these at this period as publication of the book is being held up until the illustrations can be completed. Shortage of fully trained assistance, in ratio to the increase and development of the work, hinders this.

Illustrations from the Department have been used during this past year at the New Brunswick, Nova Scotia, and Prince Edward Island Provincial Meeting; the Canadian Ophthalmology Society, Toronto; the Ontario Pathologists' Association, Toronto; the Toronto Chemical Association; a meeting of the Shock Committee of the National Research Council; at a course for Test Observers; a lecture for the Graduate School of Nurses; a staff meeting of the Toronto General Hospital; the meeting of the American Association of Genito-Urinary Surgeons, Stockridge, Mass.; the meeting of the Canadian Medical Association, Toronto. They have been published or are about to be published in *Archives of Pathology*, *Canadian Journal of Research*, *Canadian Medical Association Journal*, and in National Research Council Publications.

SUMMARY OF WORK OF ART SERVICE

I. *According to Medium of Work*

1. Water colour	27
2. Pen and ink	67
3. Wax models	1
4. Crayon	25
5. Wash	1
6. Tempera	12
Total	133

II. *According to Departments*

1. Bacteriology	3
2. Medical Research	18
3. Medicine	17
4. Neurosurgery	10
5. Obstetrics and Gynaecology	5
6. Ophthalmology	3
7. Otolaryngology	6
8. Pathology	7
9. Surgery	61
10. Therapeutics	3
Total	133

III. *Number of Members of Faculty for Whom Work was Done* 21

BIOCHEMISTRY

Under the direction of Professor H. Wasteneys

The only change in staff during the academic year was necessitated by the departure of Mr. D. H. Laughland who left to go on active service with the naval forces. Mr. S. J. Patrick was appointed a demonstrator in his place. Dr. C. W. Shen, a Sino-British Indemnity Fund Fellow, who had been doing research work in the Department for the past three years, left in October, 1943, to join the research staff of the Department of Biological Chemistry at the University of Michigan. Mrs. J. M. Fisher, our senior demonstrator, was appointed a part-time special lecturer in Zoology. She will, however, continue to act as demonstrator in this Department.

There are no changes in the routine of teaching to report. The teaching work of the Department was distributed in the following manner: Professor Wynne conducted the course in General Biochemistry for students in the honour courses in the Faculty of Arts. He also gave a course of lectures and laboratory work in Zymology and a lecture course in General Biochemistry for nurses. Professors Wynne and Young shared the delivery of lectures in Advanced Biochemistry. Professor Young was in charge of the laboratory work of the advanced course and of a laboratory course for students of the Physiology and Biochemistry course. He also delivered a course of lectures to third-year dental students and supervised their laboratory course in Biochemistry. Professor Wasteneys was in charge of the courses in Biochemistry to second- and third-year medical students and lectured on the History of Science and Civilization to first-year students in Medicine. Professors Wynne and Young devoted all the time remaining after the discharge of their academic duties to research work on behalf of the Department of National Defence. They were assisted in these investigations by nine graduate students and three laboratory technicians. Three students, Messrs. Simpson and Patrick and Miss Emmett, completed the requirements for the M.A. degree.

The total number of students registered in the Department during the session 1943-4 was 433. This number was made up of 253 medical students, 8 students of the General course, 13 P. & B., 6 Biology, 3 Chemistry, 4 Chemical Engineering, 40 Household Economics, 5 Household Science, 66 Dentistry, 3 School of Nursing, and 32 graduates. Of the graduate students 15 were candidates for the Ph.D., 6 for the M.A., 1 for the M.S.A., and 4 occasional students; 17 were taking Biochemistry as a minor for degrees in other departments and 11 were taking their major work in Biochemistry.

Researches

The staff of the Department and most of the graduate students working under their direction, assisted by the laboratory technicians, continued researches for the Department of National Defence. These researches may not be reported. A few other investigations have been conducted during the year and are described briefly.

Under the direction of Professor A. M. Wynne

Miss M. A. Emmett completed her investigations of the properties and physiological role of intestinal phosphatase. The results of this study were embodied in a thesis.

Mr. I. Motzok has been engaged in further studies of the properties and activity of the phosphatase of chick plasma in relation to the severity of rickets.

Miss M. Lourié has undertaken a study of the distribution and properties of phosphatase in the liver and gall-bladder of the rabbit and the rat.

Dr. C. W. Shen completed his research on yeast phosphatase.

Professor Wynne, in collaboration with Messrs. W. G. Kingsmill and R. T. Lacey, has made improvements in methods of isolating crystalline barium phosphoglycerate.

Major I. Tchaperoff has been given facilities and assistance in a study of the effect of *x*-rays on the stability and biological activity of certain vitamins.

Messrs. W. D. Graham and J. F. Morgan, with the valuable technical assistance of Mr. J. H. McClary, have continued an investigation sponsored by the Department of National Defence.

Under the direction of Professor L. Young

Work on a chemical warfare research project has been continued and a series of secret reports describing the results of this work have been submitted

to the Directorate of Chemical Warfare, Department of National Defence, Ottawa. Associated with Professor Young in this work during the past year were: Mr. J. A. McCarter, Mr. M. Edson, Mr. S. H. Zbarsky, Mr. D. H. Laughland, Mr. S. D. Simpson, Mr. S. J. Patrick, Miss E. Estok, Mr. M. Berenbom, and Mr. L. A. Manson.

The results of various academic researches, upon which work was suspended earlier, were published during the year. The subjects treated in these publications included the chemistry of the monoaryl sulphates, the chemistry and biochemistry of the mercapturic acids, blood transfusion, and the metabolism of carcinogenic and non-carcinogenic polycyclic hydrocarbons.

Under the direction of Mrs. J. M. Fisher

Messrs. S. J. Slinger, J. S. Barlow, and R. P. Zimmer carried out, at the Ontario College of Agriculture, an investigation into two problems concerned with the growth of chicks. In the first of these they studied changes in chloride and water concentrations during growth, maturity, and senility, in serum, skin, muscles, and tendons. In the second they studied the reactions of chicks to a series of diets containing gradually increasing amounts of sodium chloride. They found that as the sodium chloride in the diet increased, the chicks compensated by an increased intake of water, oyster-shell, bone-meal, and grit. When the concentration of sodium chloride in the diet was higher than 6 per cent, this compensation ceased and a high death rate resulted. Simultaneously the chloride content of connective tissues increased but was not greatly changed in heart and skeletal muscles.

Dr. J. M. Fisher, in collaboration with Dr. K. C. Fisher of the Department of Zoology, extended her study of water intake and membrane hardening in fish eggs to include the effects of (1) temperature, (2) pH, and (3) antagonistic ions.

Dr. J. M. Fisher, with Mr. F. O. Pen and Dr. J. Campbell of the Department of Physiology, tested the toxicities of muscle extracts by their lethal effects on adrenalectomized rats and normal mice. The toxicity of certain alcoholic extracts of muscle was found to reside in the ash and was identified as a salt of potassium.

Publications

Chang, L. H. "The fecal excretion of polycyclic hydrocarbons following their administration to the rat" (*Journal of Biological Chemistry*, vol. 151, 1943, pp. 93-9).

———— and Young, L. "The metabolism of acenaphthene in the rat" (*Journal of Biological Chemistry*, vol. 151, 1943, pp. 87-91).

———— "Urinary excretion of acid-decomposable hydrocarbon precursors following administration of polycyclic hydrocarbons" (*Proceedings of the Society for Experimental Biology and Medicine*, vol. 53, 1943, pp. 126-9).

Laughland, D. H. "A method of blood replacement in the rat" (*Proceedings of the Society for Experimental Biology and Medicine*, vol. 55, 1944, pp. 270-1).

———— and Young, L. "p-Bromaniline salts of monoaryl sulfates" (*Journal of American Chemical Society*, vol. 66, 1944, p. 657).

Zbarsky, S. H. and Young, L. "Mercapturic acids. I. The synthesis of phenyl-l-cysteine and l-phenylmercapturic acid" (*Journal of Biological Chemistry*, vol. 151, 1943, pp. 211-15).

———— "II. The formation of l-phenylmercapturic acid from phenyl-l-cysteine in vivo" (*Journal of Biological Chemistry*, vol. 151, 1943, pp. 217-19).

———— "III. The conversion of benzene to phenylmercapturic acid in the rat" (*Journal of Biological Chemistry*, vol. 151, 1943, pp. 487-92).

———— "IV. The synthesis of p-fluorophenyl-l-cysteine and its conversion to p-fluorophenylmercapturic acid in vitro and in vivo" (*Journal of Biological Chemistry*, vol. 152, 1944, pp. 599-602).

HYGIENE AND PREVENTIVE MEDICINE

Under the direction of Professor D. T. Fraser

The enrolment of graduate students in the course for the diploma in Public Health for the session 1943-4 numbered nineteen, the same as last year. The following provinces were represented: Nova Scotia, 2; Quebec, 6; Ontario, 6; British Columbia, 1; Saskatchewan, 1; Manitoba, 2; 1 student from British Guiana. Five students were Rockefeller Foundation Fellows, 3 were Connaught Laboratories Fellows, and 2 were Kellog Foundation Fellows. Including the students of this year, the total number enrolled since 1911 is 290.

As previously, courses of instruction in Bacteriology, Immunology, and Parasitology were given to these students in the course leading to the diploma in Public Health and also to suitable qualified graduate students.

During the session the field course was held from September 13-25 for the medical students. It is a pleasure to acknowledge the full co-operation of the Department of Health of Ontario and the Department of Public Health, Toronto, in allowing the members of their staff to assume this added burden.

Laboratory courses and lectures were given as usual to the students in the second year in Pharmacy, second- and third-year Household Science and Household Economics, and third-year Physiology and Biochemistry, also to students in the School of Nursing.

The enrolment for the session has been as follows:

Candidates for the diploma in Public Health	19
Graduate students	7
Faculty of Medicine, fifth year	117
Faculty of Household Science, second and third years	6
Faculty of Arts, second, third, and fourth years	99
Ontario College of Pharmacy, second year	62
School of Nursing	88
Physical and Health Education	26
Total	424

Dr. J. W. Fisher was appointed to assist Dr. R. Hare with research in Influenza in September, 1943. An epidemic of upper respiratory disease was widespread in North America during November and December, 1943. Serological evidence obtained indicated that Influenza A was the predominant type of infection. The ferret colony at the Connaught Laboratories Farm became infected during this epidemic, probably from one of the attendants. This is the first recorded instance of such an event. Based on a serological study, Dr. Fisher established that this epizootic was caused by Influenza A. Dr. Fisher has continued the very valuable collaboration with the armed services begun by Dr. Hare, and regularly receives material for investigation.

Dr. Frieda Fraser has investigated several outbreaks of streptococcus infection in which the typing of the strains supplied useful information in tracing the origin of the infection. The study of the strains and data collected in the R.C.A.F. survey of February to June, 1943, was continued. Although the incidence of carriers of group A streptococci among apparently healthy men during the observation period was 15 per cent, 100 men swabbed on arrival and at intervals during their stay showed a progressive increase in the incidence of carriers from 10 to 33 per cent. In the course of six weeks' observation over half the men who were swabbed repeatedly were carriers at some time. Carriers occurred among both Dick positive and Dick negative reactors. The types isolated from patients and carriers were essentially similar but in different proportion; 86 per cent of the patient's strains belonged to three types, as contrasted with 67 per cent of the carrier strains. In men receiving scarlet-fever toxin for immunization a number of cases of scarlet fever occurred. Only 11 per

cent had received the full number of doses of toxin, and 46 per cent either no toxin or only one dose.

The bacteriological study of clinical material from patients treated with penicillin was begun in January, 1944. This was undertaken by Dr. Frieda Fraser in co-operation with the penicillin committee of the armed forces, through whom the assistance of Surgeon Lieutenant Commander Wilson and Sergeant Major Locke was obtained. Standardized penicillin was supplied by Dr. P. Greey. Cases of empyema, meningitis, and osteomyelitis were selected for study. Approximately 500 specimens from 110 patients have been studied. Simple methods have been devised for the laboratory assay of penicillin from body fluids and for testing the sensitivity to penicillin of strains isolated from patients. These are based on the method recently described by Vincent and Vincent. The results obtained in assaying the penicillin content of body fluids at intervals after penicillin therapy were in general agreement with the previous work of other investigators. The strains of haemolytic streptococci encountered were, almost without exception, sensitive to small concentrations of penicillin in contrast to considerable variation in sensitivity among the staphylococci. In a number of instances, cultures from patients who had been treated with penicillin for some days failed to grow unless the penicillin was removed by washing or inactivated by treatment with an enzyme. This is significant in determining how soon penicillin therapy may be stopped without risk of a recurrence of the infection. There has, so far, been no indication of any alteration of sensitivity to penicillin in the patients' strains during treatment. On the other hand, some evidence was obtained of changes in the morphology and virulence of strains surviving after several days' penicillin therapy. In the case of a pneumococcus infection these changes were shown to be reversible by mouse passage. This may also have a bearing on the duration of treatment.

Dr. C. Siebenmann and Dr. H. C. Plummer have been conducting research under grant from the National Research Council.

Dr. F. O. Wishart has made a study of the rapidity of antitoxin response in humans following a recall dose of diphtheria toxoid. Investigations are still going forward in regard to the serology of typhus fever and the antigenic analysis of the Rickettsiae.

Dr. P. J. Moloney and Mr. G. W. Waters are carrying out experiments in connection with active immunization against gas gangrene.

In the parasitology laboratory, research on problems associated with enterobiasis are being continued by Dr. E. Kuitunen. Facilities for teaching were expanded and improved as a result of slides and materials donated by the Army Medical School and National Research Council, Washington, and by members of the staff of the Rockefeller Foundation in Brazil. Dr. Fallis spent several weeks in Central America observing and studying tropical diseases. It is hoped the creation of a sub-department of Parasitology will make it possible to expand the teaching and research in this subject.

Publications

Fraser, D. T., MacLean, D. L., Plummer, H. C., and Wishart, F. O. "Tetanus toxoid and its use for active immunization" (*American Journal of Public Health*, vol. 33, no. 9, Sept., 1943, pp. 406-14).

Horner, C. M., Wishart, F. O., and Waters, G. G. "The antitoxin response to diphtheria toxoid of low alum content" (*Canadian Journal of Public Health*, Dec., 1943, pp. 564-7).

Wishart, F. O. "Intradermal immunization with diphtheria toxoid" (*Canadian Journal of Public Health*, Nov., 1943, pp. 509-12).

MEDICAL JURISPRUDENCE

Under the direction of Dr. K. G. Gray and Professor W. L. Robinson

The lecture course, as last year, has had to be curtailed slightly because of the general telescoping of the medical curriculum as a whole. We were ably assisted again by Dr. Smirle Lawson, Supervising Coroner for the Province of Ontario, whose practical experience in medico-legal work has contributed greatly to the success of this course. We are deeply indebted to him for his kindness in throwing open the Coroner's court for students to attend inquests. They have always been most heartily welcomed, and procedures of court are explained to them at the time by the supervising coroner.

Lectures again were given by Professor F. C. Auld of the Law School of this university, and Mr. Cecil Snyder, Deputy Attorney-General of the Province of Ontario. Here, again, words spoken by men who are experts in their particular fields of law and medicine have added considerably to the interest in the course. Dr. W. L. Robinson carried on his usual lectures on post-mortem examination of the body, and the preparation of medical evidence for court presentation.

The course has always been well received by the students. It is regrettable that we have not more time allotted as many phases of the subject, of necessity, must be deleted.

The necessity for proper instruction in medico-legal work is becoming more apparent, particularly when one of us (Dr. W. L. Robinson) is called out in consultation in criminal cases to find that some of the ordinary rudiments of forensic medicine are not known to many general practitioners performing autopsies for the Crown.

MEDICINE

Under the direction of Professor D. Graham

The Department of Medicine has carried out the accelerated programme of undergraduate instruction as in the past two years. In the final year special emphasis was given to medical problems presented by the war.

The special course in Neurology and Psychological Medicine given at the request of the Director General of Medical Services to three medical officers every two months, to which reference was made in the Annual Report for 1942-3, has been continued under the direction of Dr. H. H. Hyland who served overseas as O.C. Medicine No. 1 Neurological Hospital until December, 1942.

The Department regrets to announce the retirement at the end of the academic session of Dr. John Oille, Assistant Professor of Medicine. For thirty-one years Professor Oille has rendered loyal and distinguished service to his alma mater as a clinical teacher. He will be greatly missed by his colleagues, not only in the Department of Medicine but in the Faculty of Medicine as a whole, and the many students, undergraduate and graduate, who were privileged to come under his influence as a teacher will learn with deep regret of his retirement.

The Department records with deep regret the death of Dr. Angus MacKay, Junior Demonstrator in Medicine.

Fifteen members of the active teaching staff and ten former Fellows in Medicine are now on active service. Recent enlistments include Dr. R. F. Farquharson (Royal Canadian Air Force) and Dr. D. J. Prendergast (Royal Navy).

The following list indicates rank and appointment held:

Colonel A. R. Hagerman, Former District Medical Officer M.D. 2 (now Overseas).
Colonel W. P. Warner, D.S.C., Consultant in Medicine (Army), Ottawa.
Wing Commander R. F. Farquharson, Consultant in Medicine (R.C.A.F.), Ottawa.
Surgeon Lieutenant Commander J. W. Graham, Consultant in Medicine (R.C.N.), St. John's, Newfoundland.

Major N. M. Wrong, Consultant in Dermatology, Canadian Army Overseas.
Lieutenant-Colonel J. A. Dauphinee, O.C. Medicine, No. 11 Canadian General Hospital, Overseas.
Lieutenant-Colonel J. C. Richardson, M.B.E., O.C. Medicine, No. 1 Neurological Hospital, Overseas.
Lieutenant-Colonel R. I. Macdonald, O.C. Medicine, No. 9 Canadian General Hospital, Overseas.
Lieutenant-Colonel R. B. Kerr, O.C. Medicine, No. 19 Canadian General Hospital, Overseas.
Major J. A. Walters, No. 2 i/c Medicine, No. 1 Neurological Hospital, Overseas.
Major A. E. Parks, No. 2 i/c Medicine, No. 21 Canadian General Hospital, Overseas.
Major A. H. Squires, No. 2 i/c Medicine, No. 9 Canadian General Hospital, Overseas.
Lieutenant-Colonel W. Hurst Brown, Army Medical Research, Ottawa.
Captain R. A. Cleghorn, No. 1 Research Laboratory, C.M.F., Overseas.
Surgeon Lieutenant D. J. Prendergast, Royal Navy, Overseas.

Former Fellows in Medicine:

Wing Commander W. J. Gardiner, Consultant in Physiotherapy (R.C.A.F).
Lieutenant-Colonel R. C. Dickson, O.C. Medicine, No. 15 Canadian General Hospital, C.M.F., Overseas.
Lieutenant-Colonel G. C. Ferguson, O.C. Medicine, No. 12 Canadian General Hospital, Overseas.
Lieutenant-Colonel W. A. Oille, O.C. Medicine, No. 24 Canadian General Hospital, Overseas.
Major A. W. Bagnall, No. 2 i/c Medicine, No. 14 Canadian General Hospital, C.M.F., Overseas.
Major K. J. R. Wightman, No. 2 i/c Medicine, No. 12 Canadian General Hospital, Overseas.
Major W. F. Greenwood, No. 2 i/c Medicine, No. 8 Canadian General Hospital, Overseas.
Major F. C. Heal, No. 2 i/c Medicine, Camp Borden Military Hospital.
Captain H. B. Wallis, O.C. Medicine, Rideau Military Hospital, Ottawa.
Captain J. L. A. Fowler, C.C.S., C.M.F., Overseas.

The Head of the Department was among those mentioned in the New Year's Honours List. He was made a Commander of the Order of the British Empire. To mark the twenty-fifth anniversary of his appointment to the Chair in Medicine, the Head of the Department was tendered a dinner and presented with a silver cigarette box by past and present members of the active staff and Fellows of the Department of Medicine.

Researches

The depletion of the staff through enlistment has resulted in an almost complete interruption of the clinical research programme of the Department. Fortunately members of the staff on active service are applying their special knowledge and training to the solution of medical problems directly related to the war.

Captain Cleghorn, who had been studying the mechanism and treatment of secondary shock in experimental animals, is now a member of the Army Medical Research Unit overseas and is applying the knowledge gained from his experimental work here to the investigation and treatment of shock in wounded soldiers.

Wing Commander Farquharson has been made Chairman of a Joint Services Penicillin Committee and is directing the investigations on penicillin now being carried out in the Navy, Army, and Air Force in Canada.

At the British Postgraduate Medical School, Lieutenant-Colonel Dickson reported upon the medical aspects of "Chest Wounds" as observed at No. 15 Canadian General Hospital.

At the January meeting of the section of Neurology of the Royal Society of Medicine, Lieutenant-Colonel Richardson reported upon the work of the Neuropsychiatric Division of No. 1 Neurological Hospital and Major Walters discussed some aspects of the treatment of Parkinsonism.

During the past four years a controlled clinical study has been in progress on the therapeutic and toxic effects of mapharsen in early syphilis, following the administration of this drug by the multiple daily injection method of Evan Thomas. The results of this study have been compiled recently by Drs.

Trow and Dixon. Among a hundred patients with early syphilis observed for twelve to forty months following treatment, they report 84 per cent probable cures. They express the opinion that the toxic reactions associated with this type of treatment make its adoption for general use a doubtful procedure.

Dr. Campbell has developed a rapid clinical test for protein in the cerebrospinal fluid. A description of the method will be published shortly.

In association with Dr. P. Greey of the Department of Pathology and Bacteriology, Dr. A. J. Longmore, Fellow in Medicine, has been studying the effects of penicillin in the treatment of infected pleural effusion and in staphylococcal, streptococcal, and pneumococcal meningitis.

Publications

Armour, R. G. "The mental state of the menopause" (*Bulletin of Academy of Medicine*, vol. 17, 1944, pp. 58-9).

Cleaver, E. E. "Chronic peptic ulceration of the oesophagus" (*American Journal of Digestive Diseases*, vol. 10, 1943, pp. 319-29).

Cleghorn, R. A. "The effect of different environmental temperatures on the survival of dogs after severe bleeding" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 363-7).

——————— Armstrong, J. B., and McKelvey, A. D. "A standardized method for producing shock in dogs by bleeding" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 355-62).

——————— and McKelvey, A. D. "Studies of shock produced by muscle trauma. I. Methods; mortality; cardiovascular, blood concentration and sugar changes" (*Canadian Journal of Research*, vol. 22, 1944, pp. 12-25).

Farquharson, R. F. and Pugsley, H. E. "The clinical use of isinglass" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 262-4).

Fowler, J. L. A. "A study of shock produced by the intraperitoneal implantation of muscle" (*Canadian Medical Association Journal*, vol. 50, 1944, pp. 416-19).

Graham, J. W. and Fletcher, A. A. "Gold therapy in rheumatoid arthritis" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 483-7).

Owen, T. "Medical aspects of the menopause" (*Bulletin of Academy of Medicine*, vol. 17, 1944, pp. 50-4).

OBSTETRICS AND GYNAECOLOGY

Under the direction of Professor W. A. Scott

Conditions due to the war have made impossible anything other than routine work in this Department during the past year.

Various members of our staff are still on active service, with the result that it has been necessary to curtail the work in the Out-Patient Department to some extent. Little, if any, change has been made in the amount of instruction given to undergraduate students, however.

The material for obstetrical teaching has increased and has given excellent opportunities for practical training for the undergraduates. The character of our work in Gynaecology has changed somewhat, but has not decreased.

Publication

Van Wyck, H. B. "Antepartum Haemorrhage" (*Canadian Medical Association Journal*, vol. 49, Dec., 1943, pp. 504-9).

OPHTHALMOLOGY

Under the direction of Professor W. W. Wright

Again this year there has been very little opportunity for research work in the Department of Ophthalmology owing to the shortage of staff. On top of the regular lectures and clinics of the fifth- and sixth-year medical students, we had, during the past academic year, four medical officers from the Army, and

one from the Navy taking postgraduate work with the object of giving them a sufficient grounding in ophthalmic studies to enable them to carry on and do routine eye work. The former worked with us for six months and the latter for eight months. I would like to take this opportunity to thank the Departments of Physics, Anatomy, Physiology, Pathology, and X-Ray for their help in training these officers.

During the year Dr. A. E. MacDonald collaborated with Surgeon Captain Best, of the Royal Canadian Navy Medical Research, on ophthalmic problems.

At the Hospital for Sick Children, under the supervision of Dr. Lloyd Morgan, the work started last year on myopia, and the orthoptic training of cases of strabismus has been continued. Also the Department of Ophthalmology is working with Dr. Elizabeth Chant Robertson of the Research Department of Paediatrics in the study of congentival changes in Vitamin A deficiency.

During the year the special eye Pathological Department under the supervision of Dr. Harold Hodgson did excellent work. One hundred and fourteen eyes, a number of them from the Provincial Laboratories at the Parliament Buildings, were received, sectioned, and reported on. I would again like to state to the oculists throughout the Province that this Department is glad to receive eye specimens and report on them.

Publications

MacDonald, A. E. "Boeck's sarcoid of the retina" (*Transactions of the American Ophthalmic Society*, vol. 61, 1943, pp. 200-3).

——————— "Primary retinal tuberculosis" (*Transactions of the American Ophthalmic Society*, vol. 61, 1943, pp. 197-200).

OTO-LARYNGOLOGY

Under the direction of Professor A. A. Campbell

The shortages in the teaching staff have been aggravated by illness and by the fact that Dr. Angus McLeod has joined the armed forces.

During the year considerable study has been given to cancer of the larynx and a report of the findings has been published in the *Canadian Medical Association Journal.*

In the Oto-Laryngological Department of the Hospital for Sick Children, Dr. D. E. S. Wishart has continued his research on the causes, effect, and treatment of deafness in children.

At the School of Aviation Medicine, Royal Canadian Air Force, Dr. J. A. Sullivan has continued his research on the "Effect of Flight upon the Middle Ear."

Publications

Campbell, A. A. "Cancer of the larynx" (*Canadian Medical Association Journal*, vol. 49, Dec., 1943, pp. 509-12).

Wishart, D. E. S. "Diagnosis and treatment of sinusitis in children" (*The Laryngoscope*, vol. 54, March, 1944, pp. 97-135).

——————— "Rhinology in children" (*The Laryngoscope*, vol. 54, Aug., 1944, pp. 421-51).

PAEDIATRICS

Under the direction of Professor A. Brown

Investigation is being carried out regarding the eye changes in the cornea of rats associated with riboflavin deficiency. Observations are being made on the

effect of continued use of sulfonamides on the eye changes and the whole animal.

The bulbar conjunctiva of a group of approximately forty healthy young adults—half receiving 50,000 units of vitamin A daily and half receiving a corn-oil placebo—have been followed for two years, both by means of slit-lamp examinations and records, and by coloured photographs. It has been stated that such doses of vitamin A render the conjunctiva thinner and clearer. This study is designed to refute or corroborate these claims.

Studies are being carried out in co-operation with the Departments of Biochemistry and Physics on the metabolism of riboflavin by the use of radio-active tracer substances. Clinical investigation and study of patients with coeliac disease have been carried on preliminary to experimental work with animals on this subject.

Studies on the effect of riboflavin on corneal vascularization were carried on in a large group of civilians.

In co-operation with the Connaught Laboratories, studies have been continued on the epidemiology, prophylaxis, and treatment of various infectious diseases. Nasal smears, nasal cultures, and cough plate cultures, have been examined and compared in the early diagnosis of whooping cough. The results tend to show that cough plates taken in triplicate are more reliable than nasal mucous cultures. A clinical, bacteriological, and therapeutic study has been made in cases of meningococcal infection and meningitis, as well as in cases of influenzal meningitis. Results of this study reveal that the case fatality has been decreased in both diseases since large doses of the sulfonamides have been used. Of seventy-one strains of H. influenzae typed, seventy were type "B." It was noted that during the years 1940-3 there has been a decided increase in the number of cases of meningococcal infection as compared to a period of twenty years previously. More Group I strains have been found during the former period. In 1943, however, there were eleven cases of Group I and twenty cases of type II. There has been a marked increase in fulminating cases and in cases of meningococcaemia without meningitis.

In co-operation with the Dairy Department of the Ontario Agricultural College, Guelph, studies have been made upon the riboflavin, calcium, and phosphorous contents of Ontario cheddar cheese. It was found that cheeses manufactured under identical conditions and from milk produced in locations in the province exhibiting varying soil conditions, including phosphorous deficiency, were remarkably constant with regard to riboflavin, calcium, and phosphorous contents. By slow or flash pasteurization pathogenic organisms in milk are destroyed, and cheese made from these milks showed no reduction in riboflavin content in comparison with cheese made from raw milk. Storage of cheese up to twelve months produced no loss of riboflavin.

In co-operation with the Horticultural Department of the Ontario Agricultural College, Guelph, studies upon the ascorbic acid (vitamin C) content of fresh, stored, and processed Ontario grown fruits and vegetables are being continued. Special attention is being directed towards cabbage, potatoes, and tomatoes, the best Canadian sources of ascorbic acid during the winter months. It is a probability rather than merely a possibility that with the work on tomatoes to date as a basis, the average vitamin C content of tomatoes, raw and canned, can be increased by 50 per cent.

The effect of cooking—under-cooking, over-cooking, and cooking at optimal temperature for optimal time—on the thiamin, riboflavin, and niacin content of meats is being studied. An interesting observation is that frying of pork is less destructive of these vitamins than is roasting.

In Canada, with rationing of fresh meats, an increased consumption of unrationed ready-to-eat meat products such as meat loaves, jellied products, etc., has occurred. Representative samples of these ready-to-serve products which have assumed a greater significance in the Canadian dietary have been examined

for their thiamin, riboflavin, and niacin contents. The jellied products, such as jellied tongue, jellied veal, and English brawn (head-cheese), were found to have the lowest contents of these "B" vitamins. Liver and bacon sausage showed as a remarkably well-balanced food as regards these dietary essentials, a single four-ounce serving supplying slightly more than one-quarter of the daily adult requirements of thiamin, riboflavin, and niacin.

Publications

Ebbs, J. H., Tisdall, F. F., and Brown, A. *A height and weight survey of Toronto elementary school children.* (A survey undertaken with the Dominion Bureau of Statistics and published by authority of the Minister of Trade and Commerce.) (Ottawa, 1942.) Pp. 36.

——————————— and Scott, M. "Dietary study of Toronto school teachers" (*Canadian Medical Association Journal*, vol. 50, March, 1944, pp. 208-13).

Jackson, S. H. "B vitamins in prepared meat products" (*Journal of the Canadian Dietetic Association*, vol. 5, March, 1944, pp. 119-22).

——————— Doherty, A., and Malone, V. "The recovery of the B vitamins in the milling of wheat" (*Cereal Chemistry*, vol. 20, Sept., 1943, pp. 551-9).

Silverthorne, N. ("Meningococcemia" (*Journal of Pediatrics*, vol. 23, 1943, pp. 155-7).

——————— "Penicillin in the treatment of haemolytic staphylococcal septicaemia" (*Canadian Medical Association Journal*, vol. 49, Dec., 1943, pp. 516-17).

——————— Fraser, D. T., and Brown, A. "Whooping cough: skin tests" (*Canadian Medical Association Journal*, vol. 50, Feb., 1944, pp. 129-30).

Tisdall, F. F. "Further report on the Canadian Red Cross food parcels for British prisoners of war" (*Canadian Medical Association Journal*, vol. 50, Feb., 1944, pp. 135-8).

——————— McCreary, J. F., and Pearce, H. "The effect of riboflavin on corneal vascularization and symptoms of eye fatigue in R.C.A.F. personnel" (*Canadian Medical Association Journal*, vol. 49, July, 1943, pp. 5-13).

PATHOLOGICAL CHEMISTRY

Under the direction of Professor A. Hunter

Last year, at the initiative of Dr. Nicholson, the laboratory course of the fourth year was recast with the general idea of relating analytical procedures more directly than heretofore with clinical conditions. This idea has now been extended to the fifth-year laboratory course. The revised courses have certainly stimulated the interest of the students, and, whether for this or other reasons, their average performance has been exceptionally good.

Dr. G. P. Hamblin has found himself obliged to resign his position as part-time assistant. Dr. Hamblin was an excellent teacher, and gave to the Department seven years of very acceptable service. His place has been taken by Dr. G. McNaughton. Dr. W. G. E. Eggleton, having joined the Navy, was unable to remain on the staff of the Department. It has not been possible as yet to find anyone to replace him. The staff has therefore throughout this year been short of its standard complement.

Students enrolled within the Department have numbered 250. Of these 139 were fourth-year, and 118 fifth-year medical students. There were two graduate students, both majoring in Pathological Chemistry, and one candidate for the B.Sc. (Med.) degree.

The Department has continued to perform basal metabolic rate determinations for certain services of the Toronto General Hospital. The total number of such determinations was 182. The number of patients involved was 135, of whom 120 were surgical and 15 obstetrical or gynaecological.

In former years the Department has carried out all routine examinations of urine required by the University Health Service. The burden imposed by this

service has become so heavy that the Department has been compelled at length to enter into a new arrangement. It continues to supervise the examinations, and its technician continues to perform them; but the latter is now employed directly by the Health Service and does the work almost entirely in extra academic hours. This arrangement has proved satisfactory both to this Department and to the Health Service.

Researches

The following is a brief statement of the research work undertaken during the year:

Hunter, A. and Downs, C. E. The measurement of arginase activity; the effect of metals, sugars, amino-acids and other substances upon arginase activity.
McArthur, C. S. Determination of ethanolamine.
McArthur, C. S. and Baer, E. (Department of Chemistry). New synthesis of phosphorylcholine.
Nicholson, T. F. The effect of chronic staphylococcal infection on carbohydrate metabolism; some factors concerned in stimulating ammonia secretion in the kidney.
Wellington, E. F. Effect of thiamine chloride on carbohydrate metabolism in schizophrenics (in co-operation with the Department of Psychiatry).
Ziegler, J. A. Riboflavin and vision in bright light (in co-operation with the Department of Paediatrics); metabolism of riboflavin.

Publication

Ziegler, J. A. "Photochemical destruction of Vitamin B_2 in milk" (*Journal of the American Chemical Association*, vol. 66, 1944, p. 1039).

PATHOLOGY AND BACTERIOLOGY

Under the direction of Professor W. Boyd

Teaching difficulties due to the war have been particularly noticeable in demonstrations in the laboratory and the museum. The Department is without a lecturer owing to the continued absence of Dr. Desmond Magner overseas. Lack of regular staff has been offset to some extent by a series of army medical officers who have been sent to the Department for training in Pathology and Bacteriology. These officers are Captains W. S. Hartroft, J. O. Patton, P. S. Rutherford, and A. S. Lewis, all of whom have done excellent work.

Captain Hartroft has carried out an extensive investigation on pulmonary emphysema which will be published at a later date, and has completed papers on "Generalized Granulomatous Reaction Following Sulphonamide Therapy" and "Addison's Disease Caused by Adrenal Cortical Involvement in Generalized Amyloidosis." Captain Rutherford has published a note on "Lipoid Pneumonia." Captain Lewis has completed a paper on "Acute Duodenitis."

In any reorganization of the curriculum it will be necessary to consider the question of alloting more time to the subject of General Pathology. The time available for this important and basic subject has been reduced to such a degree that it is not possible to cover the ground in a manner satisfactory either to students or teacher.

The Department has again been without the services of a museum Fellow, but the energy and efficiency of Miss V. L. McKinnon have compensated for this lack. Three additional features have been added to the museum. (1) Resumé cards which contain a summary of the salient aetiological, pathological, and clinical features of each disease. Naturally it will be a number of years before this work can be completed. (2) A number of wax moulages from the collection of the Department of Surgery illustrating in the patient a variety of pathological conditions such as ulcers, mycotic infections, tumours, etc. (3) An exhibit of infections caused by animal parasites, including life cycle, geographic distribution,

insect vectors, and clinical lesions. In the preparation of this exhibit the special knowledge of Captain Lewis has been of great assistance. Such an exhibit should be of value in view of the present-day emphasis on tropical diseases.

The division of Surgical Pathology under Dr. W. L. Robinson has been handicapped by the lack of an interne during the greater part of the year. In spite of this the volume of work reached record proportions. Material from 6,645 patients was examined, which entailed the preparation of 16,511 blocks of tissue and 19,612 slides. This large amount of material affords a valuable means of advanced training for young pathologists in Surgical Pathology. Dr. Robinson read papers before the Academy of Medicine on "The Pathological Findings in Anaesthetic Deaths" and "Electrocution in the Home and in Industry," while Dr. Ross McNeely contributed two papers to the same body on "Papillary Cystadenoma Lymphomatosum of the Salivary Gland" and "Echinococcus Cyst of the Kidney."

In the division of Bacteriology the chief activity has been a continuation of the fundamental work of Dr. P. H. Greey, with the assistance of Dr. A. Gray, on the production, assay, and use of penicillin, aided by grants from the National Research Council. This work has been done in collaboration with the biochemical group in the Banting and Best Department of Medical Research. A thorough study of several methods of assay for penicillin has led to a better understanding of this difficult subject. Numerous experiments have been conducted in the attempt to find a better culture medium upon which to grow the mould Penicillium notatum, and in this connection a number of fractions derived from concentrated corn steep water have been studied. The work done in this Department and in the Department of Medical Research has led to the production of a considerable quantity of penicillin which has been released to civilians with severe infections, mainly staphylococcal septicaemias and pneumococcal meningitis. The requests for this purpose have been received from all parts of Canada.

Dr. R. M. Price has continued her studies on the incidence of bovine tuberculosis in children under fourteen years of age. Since pasteurization of milk has been made compulsory in Ontario (largely as a result of the evidence brought to light by this work) the cases have become fewer and fewer, so that in the last three years no bovine infection has been encountered among the children in the Hospital for Sick Children with one interesting exception. This case of tuberculous meningitis occurred in a child—a war guest from Great Britain—who undoubtedly contracted the infection prior to coming to this country. The prophylactic vaccination against tuberculosis with BCG vaccine has been undertaken among a small group of volunteers who gave a negative tuberculin reaction and on whom a detailed follow-up can be carried out. Studies on the cultural characters of the vole bacillus are being continued.

In the division of Neuropathology the postgraduate instruction has been increased during the year by the inclusion of twenty-three Service Medical Officers and two civilians in the course Dr. E. A. Linell gave to graduates taking the diploma of Psychiatric Medicine. These individuals joined the course for varying lengths of time. Sixteen were R.C.A.M.C. officers, six R.C.A.F., and one R.C.N.V.R. The general subject of peripheral nerve injuries is being reviewed by Dr. Mary I. Tom, Dr. Margaret Thompson, and Dr. Linell in the light of recent investigations from other centres. Colonel E. H. Botterell and Major W. S. Keith have provided the division with valuable experimental nerve-injury material during the last few years. It is hoped that this investigation will be helpful in the treatment of human peripheral nerve injuries. An article entitled "Prevention of Meningo-Cerebral Adhesions by Tantalum" by Captain N. C. Delarue, R.C.A.M.C., K. G. McKenzie, and Eric A. Linell is in the press of the journal *Neurosurgery*.

Publications

Magner, W. "Jaundice" (*Canadian Journal of Medical Technology*, vol. 5, 1943, pp. 154-61).
———— and O'Sullivan, M. O. "The sulfonamide treatment of wounds" (*Canadian Medical Association Journal*, vol. 50, 1944, pp. 118-23).
Postoloff, A. V. "Mesothelioma of pleura" (*Archives of Pathology*, vol. 37, 1944, pp. 286-9).
Rutherford, P. S. "Lipoid pneumonia" (*Canadian Medical Association Journal*, vol. 50, 1944, pp. 361-2).
Shanks, G. "Laboratory experiences" (*Canadian Journal of Medical Technology*, vol. 5, 1943, pp. 171-3).

PHARMACOLOGY

Under the direction of Professor V. E. Henderson

The teaching in this Department has been, on the whole, satisfactory, though the teaching of the medical class has been affected by the loss of the two teaching Fellows, Dr. M. H. D. Gunther and Mrs. M. O. Sweeten, part way through the academic year. The class in Medicine has proved to be a very difficult one to teach as they appear to be less anxious to learn and think than any class in the past, and this may be due to the accelerated programme and the general effects of the war on their previous training. The Pharmacy class was smaller than usual and their work did not seem to be affected by war conditions and was very satisfactory. The same may be said of the class in Dentistry, which was the largest we have had for many years.

Researches

Research in the Department has not been very active. Dr. Lucas, in conjunction with Professor Ham of the Department of Anatomy, has been carrying further his study of the toxicity of certain explosive substances, and several reports have been furnished to the National Research Council. While definite progress has been made, the results at present cannot be disclosed. He has also devised a quantitative method for the estimation of certain of the local anaesthetics which may be very valuable.

Mrs. Sweeten opened up a new line of investigation which was unfortunately interrupted by her return to England. Dr. Gunther's survey of lactation, though nearly ready for publication, was delayed for the same reason.

The Head of the Department has found little opportunity to do research owing to the increase in his administrative and teaching duties; and throughout, shortage of materials and animals has made the carrying on of research extremely difficult. He was awarded the Flavelle Medal "for meritorious achievement in the medical sciences" by the Royal Society of Canada. This was largely due to his work on cyclopropane and its derivatives.

Publications

Henderson, V. E. and Sweeten, M. O. "The effect of atropine on the gastro-intestinal canal and its glands" (*American Journal of Digestive Diseases*, vol. 10, 1943, pp. 241-7).
———— and Yi, C. L. "Experiments on the pharmacology of respiration in the rabbit" (*Journal of Pharmacology and Experimental Therapeutics*, vol. 79, 1943, pp. 235-9).
———— Lucas, G. H. W., and Ferguson, J. K. W. *A text-book of materia medica and pharmacy for medical students*. Ed. 6. Toronto: University of Toronto Press. 1943. Pp. 173.

PHYSIOLOGY

Under the direction of Professor C. H. Best

Valuable additions have recently been made to the collection of sound and silent films used for teaching purposes in the Department. Some of the films have been purchased and others have been made under the direction of the staff.

Researches

Laboratory and clinical research arising out of Dr. N. B. Taylor's work on the preparation and use of isinglass as a blood substitute has progressed satisfactorily during the past year. It has been shown that a 6 per cent solution of isinglass in saline is a valuable transfusion material. Nearly a hundred patients have received injections. The transfusions in the great majority of instances were given in order to test the material for pyrogenic action, but in some cases the material was used to combat shock, haemorrhage, or haemoconcentration resulting from extensive burns. The largest amount given to any patient was nearly 9 litres. This amount was given over a period of three days to a patient suffering from a severe burn. Drs. H. E. Pugsley and R. F. Farquharson, of the Department of Medicine, reported upon their clinical experience of isinglass in the October issue of the *Canadian Medical Association Journal*. A paper dealing with the laboratory side of the investigations was published by Dr. Taylor and Miss M. S. Moorhouse in the same issue of the *Journal*.

Professor F. N. Hughes of the Ontario College of Pharmacy, working with Dr. Taylor, has carried out some studies on the utilization of isinglass injected intravenously into rats. The negative nitrogen balances and retarded growth induced by a nitrogen-free diet were reduced and the declining growth curves checked during the period of the injections.

Dr. Taylor is engaged upon the revision of *The Physiological Basis of Medical Practice*. The need for a fourth edition has developed sooner than expected, since the third edition was published in March of last year.

The facilities of the section of Biophysics, under the direction of Surgeon Commander D. Y. Solandt, were devoted entirely to research dealing with problems presented by the Royal Canadian Navy.

Dr. R. C. Partridge continued her valuable work on fatigue of the function of frequency discrimination. She was assisted in this investigation by Dr. J. P. Fletcher and Surgeon Lieutenant Commander H. D. Hebb.

Surgeon Lieutenant J. W. Scott carried out an investigation of visual colour discrimination under conditions of low illumination. Surgeon Lieutenant Scott has also made a very complete survey of ventilation and lighting in Naval Shore Establishments and on board naval vessels and has submitted an extensive report making recommendations for the improvement of environmental conditions in these situations. In collaboration with Surgeon Lieutenant W. Locke, he has made a study of methods at present in use for the sterilization of air in service quarters and is undertaking investigation in this field at present.

Sub-Lieutenant M. L. Bunker has supervised the production of vaseline-impregnated socks to be tested as a means for the prevention of "immersion foot" in merchant seamen subjected to exposure in open boats. Five thousand pairs of such socks have been produced and placed aboard merchant vessels, and this has been made possible through a donation from the Navy League of Canada. Sub-Lieutenant Bunker has undertaken a study of carbon-monoxide hazards. In company with L.S.B.A. G. K. Roseblade, he has made a study of noise in various ships under operational conditions.

A variety of tests for near visual acuity have been evaluated and a simplified test for naval use is at present under development. An instrument for the evaluation of anomalous trichromatism, called the Dichroic Anomaloscope, was

designed and constructed last year. This machine has proved satisfactory and would seem to offer the most precise method at present available for the evaluation of minor defects in colour vision and the classification of personnel suffering from anomalous trichromatism.

The work on nutrition in the Naval Service has been continued in the Department by naval and civilian personnel under the leadership of Lieutenant Commander J. Campbell.

With regard to food products, Lieutenant W. G. E. Eggleton has continued investigations on the vitamin contents of fruit juices for naval use, preserved and concentrated in various ways. Miss E. J. Reed has improved the nutritive value of bread for the Naval Service with respect to the vitamin and mineral contents and has studied the development of bread ready-mixes for use at sea. A new biscuit, called the R.C.N. biscuit, has been developed by the group to replace the Pilot biscuits formerly used by the Naval Service. The nutritive values and palatability of the new biscuit are much superior to the old type. Sub-Lieutenant K. B. Latimer investigated the milk-supply situation at the Atlantic coast region and was largely responsible for great improvements in the supply of this commodity there. New specifications for a large number of the foodstuffs supplied to the Naval Service have been recommended by the nutrition group and adopted.

A number of dietitians of the W.R.C.N.S. were commissioned and given a refresher course in Nutrition and allied subjects during the month of July. The course was also attended by cook personnel including a Warrant Officer Cook, Chief Petty Officer, and Petty Officer Cooks. The lectures on the Principles of Nutrition, and Nutrition in the Naval Service, were delivered by Lieutenant Commander Campbell, Sub-Lieutenant Latimer, Miss Reed, and Dr. W. S. Hoar. Members of the University staff generously gave lectures on Nutrition and related subjects. Dr. D. T. Fraser lectured on Hygiene and Preventive Medicine, Dr. J. H. Ebbs on Human Nutrition, and Dr. J. H. Ridout on the vitamins D. The other armed services generously co-operated, and lectures were delivered by Group Captain F. F. Tisdall and Flight Lieutenant McCreary, R.C.A.F., on Nutrition in the Air Force, while Lieutenant Colonel M. J. Wilson, R.C.A.M.C. (R), lectured on Digestion. The course also included the study of messing in the Navy, Army, and Air Force, nutrition laboratories and cooking schools of the Air Force at the Ontario Agricultural College, Guelph, and lectures from Drs. Snyder and Truscott, staff members at the Ontario Agricultural College. Dietary arrangements at Hart House were made available for study.

The work on emergency rations and equipment has been continued by Lieutenant Commander Campbell and Lieutenant Eggleton. This included laboratory investigation on control and testing. Emergency equipment has also been tested under conditions closely simulating actual emergencies.

Dr. E. Fidlar has made an examination of new techniques for platelet counts and has continued his collaboration with Dr. Jaques on various other aspects of blood coagulation.

In collaboration with Surgeon Lieutenant Locke, Dr. Fidlar has made cell counts on dogs receiving intravenous injections of polyvinyl alcohol. Immediately after the injection a sharp drop (about 50 per cent) in red cells was apparent, but definite recovery was evident in samples twenty-four hours later. The changes in leucocytes and platelets were much less significant.

Dr. G. A. Wrenshall has presented a review of literature and the results of his experiments in a report entitled "Rates of Supply and Metabolism of Energy-Producing Foods during Changes in Metabolic Requirements." The "changes" were produced by alterations in posture. Dr. Wrenshall has also been working on alloxan diabetes.

Studies on secondary shock have been continued by Dr. R. E. Haist and his group under a grant from the National Research Council. Miss J. I. Hamil-

ton has been studying changes in carbohydrate metabolism in shocked animals and also the effect on survival of re-clamping the anoxic limbs of shocked rats and dogs. The latter procedure leads to survival in a high proportion of the cases. Miss Hamilton has also been investigating the effect of the intermittent application of tourniquets in dogs and has been continuing work on the efficacy of various transfusion media in shocked dogs. With Surgeon Lieutenant Locke, Miss Hamilton has studied the relationship between the oxygen level in portal vein blood and the carbohydrate changes in shocked, transfused rats. Miss Z. W. Christie has studied the distribution of abnormally permeable blood vessels in shocked animals, the influence of denervation of the hind limbs on the course of shock, and the role of the skin in the production of shock.

Dr. K. C. Fisher of the Department of Zoology has collaborated with the above-mentioned group in a study of the respiration of brain from shocked animals and of the changes in temperature and heart rate which occur in shock.

In association with Dr. H. C. Plummer of the School of Hygiene, Dr. Haist's group have studied the role of anaerobes in shock produced in rats.

Many different therapeutic agents have been tried in shocked rats without appreciable effects on the survival time or the carbohydrate changes.

Dr. L. B. Jaques and his group have continued their studies on heparin. This has been supported in part by a grant from the John and Mary R. Markle Foundation. An extensive study was made of a possible chemical method for the determination of heparin in blood, and the limits of the method were established. Dr. M. T. C. Mitford has studied the metachromatic activity with the dye, Azure A, of extracts of beef lung. It has been found that this is chiefly due to some substance other than heparin. Other studies in the field of blood clotting have been investigations by Mrs. D. U. Irish of the changes in blood fibrinogen after the administration of dicoumarin and of blood prothrombin after tourniquet shock, and a study by Miss H. J. Bell of the reducing groups of fibrin.

Publications

Best, C. H. and Solandt, D. Y. "Progress report of the R.C.N. Medical Research Unit" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 520-55).

Haist, R. E. "The use of slides in teaching physiology" (*The School*, vol. 32, 1944, pp. 596-9).

———— and Bell, H. J. "Adrenalectomy, gonadectomy, and the insulin content of the pancreas" (*American Journal of Physiology*, vol. 141, 1944, pp. 606-11).

———— and Hamilton, J. I. "Reversibility of carbohydrate and other changes in rats shocked by a clamping technique" (*Journal of Physiology*, vol. 102, 1944, pp. 471-83).

Jaques, L. B. "The reaction of heparin with proteins and complex bases" (*Biochemical Journal*, vol. 37, 1943, pp. 189-95).

———— "The reducing properties of fibrinogen" (*Biochemical Journal*, vol. 37, 1943, pp. 344-9).

Pen, D. F., Campbell, J., and Manery, J. F. "Toxic substances from muscle" (*American Journal of Physiology*, vol. 141, 1944, pp. 262-9).

Raska, S. B. "The metabolism of the ischemic kidney" (*Journal of Experimental Medicine*, vol. 78, 1943, pp. 75-89).

Solandt, D. Y. and Best, C. H. "Night vision" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 17-21).

Taylor, N. B. and Moorhouse, M. S. "The use of isinglass as a blood substitute in haemorrhage and shock" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 251-62).

PSYCHIATRY

Under the direction of Professor C. B. Farrar

The accelerated teaching schedule for the fourth, fifth, and sixth years remained the same as last year.

Owing to staff shortages in all Ontario Hospitals, it was possible for only two candidates to register for the graduate course in Psychiatry. These were Dr. J. J. Geoghegan from the Ontario Hospital, Whitby, and Dr. R. Wolfe from the Ontario Hospital, Kingston. Both these candidates satisfactorily completed the course leading to the degree D.Psych. Dr. Wolfe having received the higher mark was recommended for the Faulkner Gold Medal.

During the year short courses were continued for members of the armed forces detailed for this purpose to the Toronto Psychiatric Hospital. Since the inception of these courses from March 2, 1943, to the present, 19 medical officers from the Army, 9 from the Air Force, and 1 from the Navy have attended these courses. At the present time 3 medical officers from the Army and 1 from the Navy are registered. Plans to date have been for army medical officers to spend two months each at the Psychiatric Hospital and in the neurological services at Christie Street Hospital and the Toronto General Hospital; whereas medical officers from the Air Force and Navy have been detailed for six months at the Psychiatric Hospital.

Staff changes during the year are as follows: Lieut.-Col. K. G. Gray, who had served in the Canadian Army Medical Corps in Canada and Overseas since January 7, 1940, has been released from military service and will resume his status as Fellow in Forensic Psychiatry; Mrs. Eunice F. Wellington has been added to the staff as a Research Fellow in Pathological Chemistry as of September 1, 1943; Miss Janet MacKendrick resigned December 15, 1943, and has been succeeded by Mrs. Harmona Ross as of December 1, 1943, as psychologist.

The work in the research division has continued conjointly with the Department of Medical Research. To simplify the administrative procedures, since the work is carried on almost entirely at the Psychiatric Hospital, Professor Best suggested, and Dr. Alan Gregg of the Rockefeller Foundation approved, showing the entire research staff on the payroll of the research division of the Department of Psychiatry, and this change was carried out as from January 1, 1944.

Researches

The past year has been utilized to enlarge the series of observations on the glucose tolerance, insulin tolerance, pyruvate tolerance, respiratory quotients, and basal metabolic rates so as to confirm as significant the suggestions obtained from our preliminary work. A publication in the *American Journal of Psychiatry* reports our findings in regard to the oral glucose tolerance as related to the degree of mental illness in a significant series of schizophrenic patients. Mrs. E. Wellington has been appointed a Research Fellow in this Department and is investigating the effect of a varying thiamine chloride blood content on the various tolerance tests. Mrs. H. Ross has replaced Miss J. MacKendrick as the psychologist in this unit and in addition to routine psychological investigation is carrying on memory tests in an attempt to assess the impairment, if any, of this process as a result of electroshock therapy. In conjunction with the Department of Neurosurgery, nineteen bilateral frontal leucotomies have been performed by Dr. K. G. McKenzie on psychotic patients whose prognosis appeared hopeless. The results have been most encouraging. In one case of prolonged catatonic schizophrenia, the anterior four-fifths of the corpus callosum was sectioned, and this patient is under neuropsychiatric investigation to obtain a comprehensive record of the effect of this procedure.

The series of observations on the increased production of cerebral dysrhythmia by the raw alternating current as compared to the fluctuating unidirectional current for electroshock previously reported has been increased to a significant series; this completes this research project.

The appearance of primitive blood elements in the peripheral circulation of

schizophrenics has suggested a hematological survey of our patients to ascertain the significance of this abnormality. This investigation is in the preliminary stage.

The main project of the unit continues to be the correlation of biochemical, physiological, electro-physiological, psychiatric, and psychological findings.

Publications

Dewan, J. G. "Chemical steps in the metabolism of alcohol by brain in vitro" (*Quarterly Journal of Studies on Alcohol*, vol. 4, Dec. 3, 1943, pp. 357-61).

Easton, N. L. and Sommers, J. "Vertebral fractures in metrazol therapy with and without the use of curare as a supplement" (*Journal of Nervous and Mental Diseases*, vol. 99, March 4, 1944, pp. 256-63).

Farrar, C. B. "Psychiatry" (in the *New International Year Book*, New York, Funk & Wagnall, 1943, pp. 514-17).

———————— "Psychological medicine" (*Camsi Journal*, Canadian Association of Medical Students and Internes, vol. 2, 1943, pp. 83-9).

Jackson, M. V. "Psychoses of pregnancy" (*Bulletin of the Academy of Medicine*, Toronto, vol. 16, no. 11, Aug., 1943, pp. 197-202).

MacKay, A., Proctor, L. D., and Roome, N. W. "Hypertension after removal of a renal calculus" (*Canadian Medical Association Journal*, vol. 50, no. 4, April, 1944, pp. 328-31).

Proctor, L. D., Dewan, J. G., and McNeel, B. H. "Variations in the glucose tolerance observations in schizophrenics before and after shock treatment" (*American Journal of Psychiatry*, vol. 100, no. 5, March, 1944, pp. 652-8).

RADIOLOGY

Under the direction of Professor G. E. Richards

The clinics and lectures to the undergraduate students were carried on without any alteration from previous years.

Apart from the undergraduate teaching, the chief activity in the Department was the provision of postgraduate courses for military radiologists for the Army and Air Force. These courses covered periods of four months each and were carried out with the co-operation of the Departments of Anatomy, Physics, and Pathology. The courses consisted of intensive classes from 9 A.M. to 5 P.M. each day for the period of four months.

In addition to the above, other classes for non-medical technicians were also conducted. A total of 29 radiologists and 85 technicians received special training.

The Head of the Department was honoured during the year by being elected to honorary membership in the Royal Society of Medicine.

SURGERY

Under the direction of Professor W. E. Gallie

This Department is again able to report that despite the difficult war-time conditions it has carried on reasonably well and has completed the programme presented in the curriculum. It must be confessed, however, that the continued absence of all the younger members of the staff is making itself evident in the teaching and in the quality of the results as seen in the graduates. Many of the senior members of the staff are longing to be relieved of the heavy programme of teaching and hospital work and there is no doubt the recall of staff from overseas is becoming more and more necessary.

In last year's report reference was made to a modification of the programme of postgraduate training of surgeons made necessary by the regulation which

absorbed all physically fit graduates in Medicine in the armed forces at the end of eight months' rotation internship. As this meant the elimination for a period of years of all postgraduate training in Surgery, negotiations were entered into with the Directors General and the Medical Services and ultimately brought to a satisfactory conclusion whereby recent graduates who had shown aptitude for Surgery would be given opportunities for surgical training in the armed forces and for abbreviated courses of six months each in one of the four university hospitals. This programme has proved highly successful and has resulted in a steady flow of well-qualified young surgeons from this School into the advanced surgical units, casualty clearing stations, and general hospitals. To this group belong F. P. Dewar, E. B. Tovee, W. G. Bigelow, J. E. Bateman, E. G. Meyer, A. Lackner, G. E. Cooper, G. A. Lane, W. D. Stevenson, A. E. Trottier, W. E. Collins, G. P. Fahrni, L. J. Williams, W. G. Breckenridge, F. B. Thomson, J. R. Francis, N. C. Delarue, H. A. Henderson, D. L. McIntosh, E. J. Delorme, and T. S. Perrett. These young men were all brought back after two or more years in the Army, Navy, or Air Force and given abbreviated intensive courses of training here as senior interns or residents. They then returned to their respective services where they received promotion and were given those responsibilities for which their training had prepared them.

As the war drags on it becomes increasingly evident that something will have to be done by the medical schools to provide postgraduate training for those returning officers who have spent years in the services and who have had no opportunity for specialist education. Already we have promised consideration for appointment as senior surgical interns to more men than could be taken on in one year. The plan of bringing officers back for short periods of training will, of course, relieve this situation somewhat, but when one remembers that not only will there be applications for internships from officers returning from overseas but also from interns who have never reached the stage of going overseas, it will be realized that there are sure to be difficulties. To get over a possible impasse this Department has under consideration a plan to double the number of senior intern appointments for a year or two, by which time returning officers will have settled down to practice. While this will undoubtedly lessen the value of the internship, nevertheless it is thought that by giving extra courses of instruction in Surgical Pathology, Surgical Anatomy, and Operative Surgery on the cadaver, these students can be brought up to the standard required for the M.S. degree and for the diploma of the Royal College of Surgeons and so tide over a difficult period.

During this year two officers have returned from overseas. Lieutenant-Colonel A. W. M. White was brought back from Africa at the request of the University because of the depletion of the staff at the Western Hospital brought about by the departure of Lieutenant-Colonel Norman and Squadron Leader Laird. Major C. Aberhart was returned from Africa and invalided out of the Army because of relapsing fever. He has improved greatly and has been able to take up his work again at the General Hospital in the Department of Urology.

At present the members of the surgical staff in the medical services of the forces are as follows:

Toronto General Hospital

Colonel J. A. MacFarlane, Consultant in Surgery, Canadian Army Overseas.
Colonel R. I. Harris, Consultant in Surgery, Canadian Army Overseas.
Lieutenant-Colonel E. H. Botterell, Officer in Charge of Surgery, No. 1 Neurological Hospital, Basingstoke, England.
Lieutenant-Colonel S. D. Gordon, Officer in Charge of Surgery, Canadian Plastic Unit, Basingstoke, England.
Lieutenant-Colonel F. G. Kergin, Officer in Charge of Surgery, No. 2 General Hospital, Canadian Army Overseas.
Lieutenant Commander W. K. Welsh, R.C.N.V.R., Halifax.
Lieutenant Commander D. R. Mitchell, R.C.N.V.R., Halifax.
Major J. R. F. Mills, Officer in Charge of Surgery, No. 1 Canadian Field Surgical Unit in Italy.

This year Dr. H. F. Robertson who held a temporary war-time appointment, joined the Army and at once went on the surgical staff at Chorley Park Hospital.

St. Michael's Hospital

Lieutenant-Colonel J. W. Ross, Officer in Charge of Surgery, Camp Borden Hospital.
Lieutenant-Colonel C. H. Watson, Officer in Charge of Surgery, No. 9 Canadian General Hospital, Canadian Army Overseas.
Lieutenant-Colonel T. R. Sarjeant, Officer in Charge of Surgery, No. 5 Canadian General Hospital, in Italy.
Lieutenant-Colonel J. W. Brennan, Officer in Charge of Surgery, Chorley Park Hospital, Toronto.

Toronto Western Hospital

Lieutenant-Colonel H. R. C. Norman, Officer in Charge of Surgery, No. 11 General Hospital, Canadian Army Overseas.
Squadron Leader R. C. Laird, Consultant in Surgery, R.C.A.F.

Hospital for Sick Children

Wing Commander A. W. Farmer, Chief Consultant in Surgery, R.C.A.F.
Squadron Leader S. A. Thomson, Consultant in Surgery, R.C.A.F.
Major W. S. Keith, No. 1 Canadian Mobile Neurosurgical Unit, Canadian Army Overseas.

It is pleasant to observe that the members of our staff in the forces continue to make important contributions to medical knowledge. During the past year Colonel MacFarlane in association with other officers made very complete studies of long series of cases of internal derangement of the knee joint, fractures of the carpal scaphoid, and fractures of the shaft of the femur. These form the basis of the policy adopted for the disposal of such cases. Lieutenant-Colonel Kergin has prepared a paper on wounds which is based on experiences with casualties from Dieppe and from Sicily and Italy.

This Department records with pride the appointment of Major Angus D. McLachlin as Professor of Surgery, University of Western Ontario, and Surgeon-in-Chief, Victoria Hospital, London. Major McLachlin was a brilliant graduate of the London School, a Rhodes Scholar, and an honour graduate of Oxford University. He was sent to us from London to be trained in Surgery and spent six years here which included the Residencies at the Hospital for Sick Children and the Toronto General Hospital. During this period he won his M.S. degree with the Lister Prize, the diploma of Fellowship in the Royal College of Surgeons of Canada, and immediately after going overseas, Fellowship in the Royal College of Surgeons of England. He is at present in France as Surgeon-in-Charge of a Field Surgical Unit. He will take up his duties in London at the end of the war and a brilliant future for himself and his Department is assured.

Researches

At home the amount of clinical research has been small as all who are left are busy with routine. Nevertheless Dr. A. B. LeMesurier has found time to prepare a brochure on "Amputation" for the National Research Council which will be ultimately used by the services. Dr. D. W. G. Murray has continued his experiments on the use of heparin in the surgery of blood vessels. A technique for the maintaining of adequate blood circulation in the limbs after serious wounds of the large arteries by means of glass and vitallium tubes has been perfected in animals and has been recommended for use in wounded soldiers. It is hoped that by means of such an expedient the circulation can be maintained until a collateral circulation has been established or until the patient can be transported to a surgical unit where the tube could be replaced by a venous graft. If the results obtained in animals can be obtained in soldiers, some limbs, at least, may be saved. Dr. E. B. Tovee and the Head of the Department have observed the beneficial effect of penicillin in the treatment of osteomyelitis. Dr. C. Aberhart has commenced a study of the treatment of gonorrhoea in the

male which has proved resistant to chemotherapy. This work is being conducted with the aid of a grant from the National Research Council.

It is with the greatest sadness that I must record the death of Professor D. E. Robertson, Surgeon-in-Chief at the Hospital for Sick Children. Dr. Robertson has been a leader in surgical thought in this School for many years and has contributed much to its progress. A whole generation of students and colleagues here and elsewhere mourn his passing.

Publications

Couch, J. H. *Surgery of the hand.* Ed. 2. Toronto: University of Toronto Press. 1944. Pp. x, 160.

Gallie, W. E. "Subastragaloid arthrodesis in fractures of the os calcis" (*Journal of Bone and Joint Surgery*, vol. 25, Oct., 1943, pp. 731-6).

Graham, R. R. "The technique of gastric resection for duodenal ulcer" (*Surgical Clinics of North America*, Oct., 1943, pp. 1394-1411).

Harris, R. I. "Arthrodesis of the hip joint" (*Surgical Clinics of North America*, Oct., 1943, pp. 1412-28).

———— "Memorandum on the treatment of burns in U.S.A. and Canada at this date, December 1942" (*R.C.A.F. Medical Bulletin*, no. 4, May, 1943).

———— "Treatment of war fractures" (*Military Surgeon*, vol. 94, May, 1944, pp. 246-50).

Janes, R. M. "Multiple cavernous haemangiomas of the lungs successfully treated by local resection of the tumours" (*British Journal of Surgery*, Jan., 1944, pp. 270-2).

———— "Surgical treatment of tumours of the salivary glands" (*Surgical Clinics of North America*, Oct., 1943, pp. 1429-39).

LeMesurier, A. B. "The importance of leaving a good amputation stump" (*Journal of Bone and Joint Surgery*, vol. 25, no. 3, July, 1943, pp. 566-75).

MacFarlane, J. A. with MacKenzie, D. W. "Internal derangements of the knee joint in the Canadian Army (Overseas)" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 472-8).

McKenzie, K. "One aspect of the post-traumatic syndrome in craniocerebral injuries" (*Surgery, Gynaecology and Obstetrics*, Dec., 1943, pp. 631-3).

———— "A perforator and ball burr" (*Journal of Neurosurgery*, vol. 1, 1944, pp. 58-9).

Murray, D. W. G. "Aortic embolectomy" (*Surgery, Gynaecology and Obstetrics*, vol. 77, Aug., 1943, pp. 157-62).

Roome, N. W., with MacKay, A. and Proctor, L. D. "Hypertension after removal of a renal calculus" (*Canadian Medical Association Journal*, vol. 50, April, 1944, pp. 328-31).

THERAPEUTICS

Under the direction of Professor R. F. Farquharson

There has been little change in the general programme of the Department during the year.

Drs. A. J. Longmore and R. L. Stirrett acted as Assistants in Therapeutics.

Dr. H. E. Pugsley continued his work on factors that influence the rate of flow of fluids administered intravenously. Reports of this work, and also of the clinical use of isinglass, were published.

In co-operation with the Department of Medicine clinical trials of various drugs and therapeutic preparations have been carried out.

Except for time spent in teaching, the Head of the Department has been engaged in his duties as Consultant in Medicine to the R.C.A.F.

Sub-Department of Anaesthesia

Drs. D. C. Bastow, H. E. Hopkins, F. L. Junkin, and R. H. Meredith were appointed as Voluntary Assistants in Anaesthesia. They had already given valuable service during the war-time period.

A number of medical officers from the Army, Navy, and Air Force have been given training in Anaesthesia.

Sub-Department of Physical Therapy

Miss L. Pollard, C.S.M.M.G., T.M.G., from St. Thomas's Hospital, London, has been appointed Assistant in Physical Therapy. Miss Pollard is a capable physical therapist and an unusually clear and stimulating teacher.

Publications

Farquharson, R. F. and Pugsley, H. E. "The clinical use of isinglass" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 262-4).

——————————— "Factors influencing the rate of flow of intravenous infusions" (*Canadian Medical Association Journal*, vol. 51, 1944, pp. 5-11).

Shields, H. J. "Fatalities in anaesthesia" (*Canadian Hospital*, 1944, April, pp. 36-7).

BANTING AND BEST DEPARTMENT OF MEDICAL RESEARCH

Under the direction of Professor C. H. Best

General Researches (many of which are on problems of war medicine)

The work being done by Dr. C. C. Lucas in collaboration with Dr. H. M. Macrae of the Department of Ophthalmology for the Chemical Warfare Laboratories of the Department of National Defence, was terminated during the year. Before Captain Macrae left for overseas a technical moving picture illustrating some of their results was started. Dr. Lucas completed this with the help of Mr. E. G. Boulton, a specialist in colour photography. The film has been turned over to the military authorities for teaching purposes.

Dr. Lucas continued the work on penicillin which has been under way in this Department for several years. With Dr. P. H. Greey of the Department of Pathology and Bacteriology, further attempts were made to improve the culture medium upon which the mould, *Penicillium notatum*, is grown. Attempts were made to fractionate concentrated corn steep water, a by-product of the corn starch industry which exerts a markedly beneficial effect on penicillin production. With the assistance of Mr. Boulton, Dr. Lucas prepared a documentary 16 mm. coloured film recording the early stages of the work done on penicillin in the Banting Institute.

Dr. S. F. MacDonald has devoted his full time to improvements in the commercial scale production of penicillin. During the last six months his efforts have been mainly directed to planning and installing the equipment in the Spadina Branch of the Connaught Laboratories where the manufacture of penicillin has been undertaken.

Dr. J. M. R. Beveridge, Dr. Lucas, and Miss M. O'Grady have investigated the effect of essential amino acids upon the lipotropic action of methionine. The importance of these metabolites was clearly demonstrated.

The effect of the essential fatty acids upon the lipotropic action of choline and inositol has also been studied by Dr. Beveridge and Dr. Lucas. Essential fatty acids augment the lipotropic action of choline whereas the reverse is true in the case of the action of inositol. At present, work is being done to discover an explanation for this difference.

Dr. Beveridge has performed a comprehensive study of the amino acids in isinglass, a substance which has been proposed as a blood substitute for transfusion purposes. The absence of tryptophane and tryosine was demonstrated, and cystine was shown to be present only in traces. Estimation of the following amino acids has been made: methionine, arginine, histidine, lysine, hydro-

xylysine, phenylalanine, threonine, serine, proline, hydroxyproline, glutamic acid, aspartic acid, glycine, alanine, valine, leucine, and isoleucine.

In further search of a product suitable for intravenous injection, which would supply essential building blocks for the rapid regeneration of blood and body protein, a study of the partial acid hydrolysis of casein was made by Dr. Beveridge.

Dr. C. S. McArthur, in collaboration with Dr. E. Baer of the Department of Chemistry, has performed a new synthesis of phosphorylcholine with a view to future syntheses in the field of glycerophosphatides. Dr. McArthur has also made some preliminary studies on the use of permutit for the separation of the basic hydrolysis products of phosphatides and has investigated the use of periodic acid for the estimation of ethanolamine in the presence of choline.

Mr. D. C. O'Connell has continued the investigation of the vole acid-fast bacillus. A more detailed experimental study, involving the use of a number of vole vaccines prepared in different ways to increase antigenicity, will soon be completed. The co-operation of the Provincial Department of Health in assisting with this work is appreciated. The financial assistance given to this study by the Ontario Mining Association is gratefully acknowledged. Mr. O'Connell has also assisted in the investigation of penicillin by carrying out tests indicating the presence or absence of pyrogen in the various samples. He has also helped various members of the Department in problems involving bacteriological technique.

Dr. J. H. Ridout, working with Dr. G. A. Wrenshall of the Department of Physiology, has made several interesting additions to our knowledge of "alloxan" diabetes.

Dr. B. Mendel and his associates continued their studies on cholinesterase. Miss D. Mundell (Banting Research Foundation Fellow) used the method elaborated for the quantitative estimation of true cholinesterase and pseudo-cholinesterase in her investigation of these enzymes in the blood of humans and animals under various physiological conditions. She also carried out experiments on, and reported the action of, these two enzymes on phosphoryl choline. Dr. Mendel and Mr. H. Rudney reported their findings on the type of cholinesterase in various animal tissues. They found that brain tissue of all vertebrates contains only true cholinesterase, thereby showing that it is the true cholinesterase in this organ which performs the function of hydrolysing acetylcholine after it has been liberated. Miss F. Strelitz succeeded in obtaining preparations of pseudo-cholinesterase from horse serum which were 5,000 to 8,000 times purer than the original serum; her method of purifying this enzyme is being published in the *Biochemical Journal*. Experiments have been performed by Mrs. J. Gunter (Banting Research Foundation Fellow) to determine whether or not a surplus of cholinesterase exists in brain. Studies have now been started on another esterase, which is related to pseudo-cholinesterase. This enzyme, common esterase, is being investigated by Miss E. Mortimer.

Naval Medical Research

Surgeon Lieutenant Commander E. A. Sellers, in association with Mr. E. S. Goranson, has continued the investigation on shock occurring after burns. The effect of immediate application of plaster bandages after burning has been compared with compression dressing treatment and the later application of plaster. When immediate plaster treatment is carried out, the mortality rate is significantly less than with the other methods of treatment. The effect of various hormones on capillary permeability is also being studied.

Surgeon Lieutenant W. Locke and Nursing Sister (Technician) M. Stock have extended their studies on tourniquet shock in rats. They have also developed a method for evaluating blood substitutes experimentally. The effectiveness of plasma, isinglass, polyvinyl alcohol, and saline in treating this kind of

shock has already been compared and further work along this line is now in progress.

Surgeon Lieutenant J. M. Parker and Surgeon Lieutenant W. S. Fields have carried out extensive sea trials on the seasickness remedy adopted by the R.C.N. Sea trials using various types of remedies have been carried out in collaboration with the United States Navy by Surgeon Captain C. H. Best, Surgeon Commander D. Y. Solandt, Surgeon Lieutenant Commander Sellers, and other members of the R.C.N. Medical Research Unit. A pilot plant in the Department has supplied several orders of the seasickness remedy to the R.C.N. pending commercial production.

Sub-Lieutenant C. R. Shorney has organized a section of optical technicians who are in charge of supplying and fitting glasses and frames at each naval base. These men were trained in the Department and at the Eye Clinic of the Toronto General Hospital. Dr. A. E. MacDonald has supervised this enterprise.

Lieutenants C. R. Cowan, R. Grant, and T. H. Manning have conducted various researches on clothing and equipment. Their work has been under the auspices of the Chiefs of Staff Sub-Committee on Protective Clothing.

Lieutenant N. R. Stephenson has adapted methods for assaying the R.C.N. seasickness remedy. He has been responsible also for the production of one hundred portable laboratory kits for the Navy. These were described in last year's report. In collaboration with Surgeon Captain Best and Dr. R. Graham, experiments on grafting jejeunal implants into the stomach wall were performed.

Surgeon Lieutenants Locke and J. Scott have investigated the value of methods for air sterilization in the control of respiratory disease. This work is being done in collaboration with the R.C.A.F. Clinical Investigation Unit.

Surgeon Lieutenant Commander E. J. Delorme and Surgeon Lieutenant Locke have conducted a survey of problems connected with working under increased atmospheric pressure. This work has taken them to various naval centres in the United States and Canada.

Aviation Medical Research

Work in this field was directed by Professor H. C. Bazett until midsummer when he was recalled to the University of Pennsylvania. His departure has meant a great loss to the aviation group. Much of the success achieved in the past is to be attributed to his initiative and influence.

Dr. E. C. Black is still Secretary of the Subcommittee on Oxygen Equipment of the Associate Committee on Aviation Medical Research (National Research Council). He has contributed, in collaboration with the R.C.A.F. officers, to the development, improvement, and production of oxygen equipment. A *précis* was prepared on the assembly, maintenance, and repair of R.C.A.F. personal oxygen equipment. The second edition of the manual of *Oxygen and Intercommunication Equipment* has been issued.

Much work has been done in the field of protective clothing by Dr. A. C. Burton, Dr. J. A. Kitching, and Dr. E. Pagé. Dr. Kitching is continuing as Secretary of the Subcommittee on Protective Clothing, Associate Committee on Aviation Medical Research (National Research Council), and is being assisted in this by Dr. Pagé, Miss E. White, and Miss M. Shaw. Dr. Burton has been made a member of the Coordinating Committee on Protective Clothing (National Research Council) and in this capacity has taken a large part in the organization of a Course for Test Observers for field trials. He also took a leading part in the running of some of these winter trials at Camp Borden.

Dr. Burton has completed (in collaboration with the Navy group) the work on the final model of an emergency light which is far brighter and lasts much longer than any light yet devised for the particular purpose it will serve. Dr. Burton has done much more work on electrically heated flying clothing. Dr. Kitching, Dr. Pagé, and Mr. A. N. Bentley have contributed substantially to

this development. Dr. Burton has completed some fundamental studies on thermal insulation by reflection of infra-red radiation. He also did field tests on the value of various conspicuous colours for attracting attention to men awaiting rescue at sea.

Dr. Pagé has taken an important part in the development of an exposure suit for quick donning in the event of forced landing at sea ("ditching"). He and Dr. Kitching took part in the field trials of these suits at Halifax. They are now engaged, with the collaboration of the R.C.A.F., in the development of an exposure suit to be worn in flight.

Dr. Bazett continued his work in England during the first part of the year and Dr. Kitching then went over to continue the work initiated. Very satisfactory results were obtained. Valuable surveys were also made during the trips on aviation medical problems.

Mr. G. R. Macdougall did some interesting and practical studies pertaining to the physiology of respiration and his findings form the basis of a thesis.

Dr. G. F. M. Smith, assisted by Mrs. B. Young and Miss M. Burgoyne, under the direction of Mr. J. E. Goodwin, are bringing to a close their work on personnel selection by means of electroencephalograms. They are now being transferred to a study of auditory problems in intercommunication equipment, in collaboration with R.C.A.F. and R.C.N. officers. Dr. Smith has an important part in the working out of the tests and in the statistical analysis of the results.

Publications

King, E. J. "Preparation of phenolphthalein phosphate" (*Journal of Pathology and Bacteriology*, vol. 55, 1943, pp. 311-14).

Lucas, C. C. "Penicillin" (*Canadian Chemistry and Process Industries*, vol. 27, 1943, pp. 529-36, 547).

——— "Penicillin" (*Canadian Journal of Medical Technology*, vol. 5, 1943, pp. 89-97).

Sellers, E. A. and Willard, J. W. "The effect of plaster bandages and local cooling on hæmoconcentration and mortality rate in burns" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 461-4).

Solandt, D. Y. and Best, C. H. "Night vision" (*Canadian Medical Association Journal*, vol. 49, 1943, pp. 17-21).

Stephenson, N. R. "The oxidative deamination of diamines by histaminase" (*Journal of Biological Chemistry*, vol. 149, 1943, pp. 169-76).

MEDICAL SOCIETY

September, 1943, to March, 1944

Honorary President	Dean W. E. Gallie
President	H. J. M. Barnett
Vice-President	D. E. Hutcheon
Treasurer	J. C. Callaghan
Assistant Secretary-Treasurer	J. A. McIntyre

Late in April, 1943, the Medical Society executive was elected by the students to represent them, and to direct their programme of activities until the following spring. Under the capable management of President Barnett, the executive showed admirable efficiency in their co-operation to bring about many improved changes, and an altogether successful term of office.

The earliest function of the new executive took the form of the annual Medical Banquet. This was a joint effort, the Medical Arts and Letters Club

contributing an enjoyable programme which included Mr. Robert Ripley of "Believe It or Not" fame, and the Medical Society arranging the business matters involved. The student attendance was very satisfactory.

The annual Meds At Home, held this year in early November, was guided by the willing hand of Chairman D. E. Hutcheon and his committee to an extremely satisfactory climax, both socially and financially. Gren Hobson and his band provided the music for dancing and at intermission the men of sixth year provided the entertainment for the enjoyment of the dancers.

This year the University of Toronto was host for the Annual Conference of the Canadian Association of Medical Students and Internes, and we have every right to be proud of our C.A.M.S.I. committee, which provided an excellent programme for the three days' duration of the Conference.

Four very excellent and well-composed editions of the *Medical Journal* were issued to the student body by Editor H. B. Stewart, during the months October, 1943, to February, 1944.

Of interest, during the year, were two drives on the campus to which the Medical Society and the students gave strong support: The first was a drive for blood donors from the student body. The second was an "all University" affair, the I.S.S. drive, a fund for equipment for needy students in war zones. A goodly sum was collected from the student body by the medical executive, and was turned over along with a contribution from the Soph-Frosh Committee from profits gained on the Soph-Frosh dance.

The Medical Society executive elections for officers to be held from May, 1944, to December, 1944, took place in the middle of January. A new position was created, that of Publicity Agent for both the Medical Society and the Medical Athletic Association. Via this new office it is hoped that more publicity for the activities of the medical executives may be attained.

The night of the elections was celebrated by the Soph-Frosh dance. The freshman turn out was very satisfactory, and the added attraction of the presentation of the athletic awards for the year brought forth many students from other years. A vote of thanks is owing to the students of first and second years who, by aiding their executive, helped make the dance a success.

A new committee was originated this year—the Finance Committee, consisting of the treasurers of all committees connected with the Medical Society, and the year treasurers. It is intended that this group look after all the financial affairs of the Medical Society and its associated committees, and will provide each class with a fund for an active year executive.

A suggestion regarding year fees was proposed, by which every student at the beginning of each academic year would contribute a certain sum. Part of this sum would be retained yearly by the Finance Committee, and finally be used to finance the Students' Graduation Banquet; the remainder of the sum would be given over to each year executive, for class functions.

The Graduation Banquet this year, managed by Howard Pearsall, showed financial profit and proved to be a social success.

John Wilford has been elected President of the Medical Society, for next year, and it is assured that he and his executive will carry the Society to new heights of success.

J. M. Finlay,
Secretary.

MEDICAL ATHLETIC ASSOCIATION

September, 1943, to March, 1944

Honorary President	Dr. H. H. Hyland
President	R. J. Delaney
Vice-President	G. A. Lewis
Secretary-Treasurer	K. K. Faber
Third-year Representative	W. J. Fielding
Second-year Representative	J. W. Hazlett
First-year Representative	J. A. Peller
Quartermaster	J. H. Davies
Assistant Quartermaster	J. S. Spooner

The past year has beyond doubt been one of the most successful seasons in the history of medical athletics. Enthusiasm for sports among the students has been mounting rapidly during these war years. Last year Meds ranked second in the Intermural competition and this year for the first time Meds amassed a record-breaking total of over 7,000 points to win the coveted T. A. Reed Trophy, symblematic of the Intramural Sports championship. Meds can well be proud of this hard earned achievement.

The idea behind athletics is to maintain a healthy balance between the mental and physical well-being of the medical students. This we consider to be of even greater importance during war years. During the past season, nearly 85 per cent of the student body participated in at least one form of team or tournament type sport. Also, in nearly every sport, the number of teams has been substantially increased over previous years.

From the administrative standpoint, several changes have been brought about in the constitution. The most outstanding perhaps were those concerning the colour awards. In place of the former rather indistinctive "M", the supplies of which were this year exhausted, a new, bigger, and more striking "First M" was designed as well as a smaller "Second M", awarded for lesser achievement. In addition, an "Honour Award" consisting of a "First M" mounted on a heavy woollen red, black, and white sweater was designed, to be awarded to those men in the graduating year who had earned a "First M" three times.

The increase in the number of teams and in individual participation, as well as the necessity for replenishing the supply of colour awards, was a great strain on finances. In consequence, the season ended with a debt to be paid by the following executive. The debt, however, was not heavy and was an insignificant sacrifice to pay for so highly successful a season.

It would be unfitting to close the year without expressing the gratitude of the student body to the President, Bob Delaney, who was the dynamic power and guiding hand behind the ship. Incidentally, Bob was winner of the Medical Athletic Stick for the best graduating athlete in Medicine. In addition, Bob was co-winner with "Beef" MacMillan, our football powerhouse and coach and defence wall in hockey, of the George M. Biggs Trophy, awarded annually to the undergraduate who has contributed most to University athletics from the standpoint of leadership, sportsmanship, and performance.

In conclusion, the executive extends many thanks to all those managers, participants, and others who did their share in contributing to the success of athletics during this past year. It is hoped and anticipated that enthusiasm will climb to even greater heights next season.

GEORGE A. LEWIS,
Vice-President.